Service Manual

ViewSonic VX2235wm-4

Model No. VS11446

22” Color TFT LCD Display

(VX2235wm-4_SM Rev. 1a Dec. 2006)

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Revision History

Revision	SM Editing Date	ECR Number	Description of Changes	Editor
1a	12/14/2006		Initial Release	Jamie Chang

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1. Precautions and Safety Notices

1. Appropriate Operation

(1) Turn off the product before cleaning.
(2) Use only a dry soft cloth when cleaning the LCD panel surface.
(3) Use a soft cloth soaked with mild detergent to clean the display housing.
(4) Disconnect the power plug from AC outlet if the product is not used for a long period of time.
(5) If smoke, abnormal noise, or strange odor is present, immediately switch the LCD display off.
(6) Do not touch the LCD panel surface with sharp or hard objects.
(7) Do not place heavy objects on the LCD display, video cable, or power cord.
(8) Do not use abrasive cleaners, waxes or solvents for your cleaning.
(9) Do not operate the product under the following conditions:
- Extremely hot, cold or humid environment.
- Areas susceptible to excessive dust and dirt.
- Near any appliance generating a strong magnetic field.
- Place in direct sunlight.

2. Caution

No modification of any circuit should be attempted. Service work should only be performed after you are thoroughly familiar with all of the following safety checks and servicing guidelines.

3. Safety Check

Care should be taken while servicing this LCD display. Because of the high voltage used in the inverter circuit, the voltage is exposed in such areas as the associated transformer circuits.

4. Power Supply Requirements

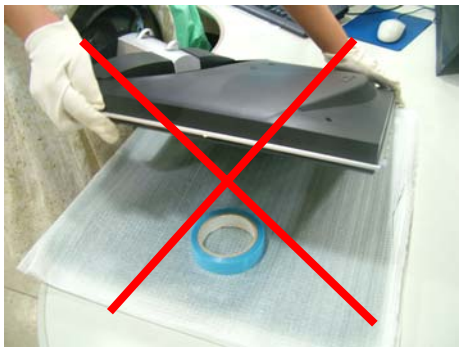
The external AC power operating range shall be from 90 to 264Vac

5. LCD Module Handling Precautions

5.1. Handling Precautions

(1) Since front polarizer is easily damaged, pay attention not to scratch it.
(2) Be sure to turn off power supply when inserting or disconnecting from input connector.
(3) Wipe off water drop immediately. Long contact with water may cause discoloration or spots.
(4) When the panel surface is soiled, wipe it with absorbent cotton or other soft cloth.
(5) Since the panel is made of glass, it may break or crack if dropped or bumped on hard surface.
(6) Since CMOS LSI is used in this module, take care of static electricity and insure human earth when handling.
(7) Do not open nor modify the Module Assembly.
(8) Do not press the reflector sheet at the back of the module to any directions.
(9) In case if a Module has to be put back into the packing container slot after once it was taken out from the container, do not press the center of the CCFL Reflector edge. Instead, press at the far ends of the CFL Reflector edge softly. Otherwise the TFT Module may be damaged.
(10) At the insertion or removal of the Signal Interface Connector, be sure not to rotate nor tilt the Interface Connector of the TFT Module.
(11) After installation of the TFT Module into an enclosure (LCD monitor housing, for example), do not twist nor bend the TFT Module even momentary. At designing the enclosure, it should be taken into consideration that no bending/twisting forces are applied to the TFT Module from outside. Otherwise the TFT Module may be damaged.
(12) Cold cathode fluorescent lamp in LCD contains a small amount of mercury. Please follow local ordinances or regulations for disposal.
(13) Small amount of materials having no flammability grade is used in the LCD module. The LCD module should be supplied by power complied with requirements of Limited Power Source (IEC60950 or UL1950), or be applied exemption.
(14) The LCD module is designed so that the CFL in it is supplied by Limited Current Circuit (IEC60950 or UL1950). Do not connect the CFL in Hazardous Voltage Circuit.

5.2. Handling and Placing Methods

Correct Methods:	Incorrect Methods:
Only touch the metal frame of the LCD panel or the front cover of the monitor. Do not touch the surface of the polarizer.	Surface of the LCD panel is pressed by fingers and that may cause “Mura”
Place the monitor on a clean and soft foam pad.	Placing the monitor on foreign objects. That could scratch the surface of the panel or cause “Mura”
	
	The panel is placed facedown on the lap. That may cause “Mura”

2. Specification

1.	LCD PANEL 1st panel source	Type: Pixel Pitch Color Filter Glass Viewing Angle Contrast Ratio Brightness Response Time Color Depth Backlight Life	AUO CR > 10	22" wide Color TFT Active Matrix WSXGA+ LCD. (M220EW01 V0) 0.282mm (H) x0.282mm(V) RGB Vertical Stripe Anti-Glare treatment and hard-coating 3H Horizontal = 160 Degrees (Min), Vertical = 150 Degrees (Min) Horizontal = 170 Degrees (Typ), Vertical = 160 Degrees (Min) 900:1 (Typ), 700:1 (Min) 300 cd/m2 (Typ), 250 cd/m2 (Min), Tr = 3.6ms (Typ), Tf =1.4ms (Typ). Tr+Tf = Total = 5ms (Typ) Tr = 5.7ms (Max), Tf = 2.3ms (Max) Tr+Tf = Total = 8ms (Max) 16.7 million colors (6 bits + HiFRC) 40,000 Hrs (Min)
2.	INPUT SIGNAL	Video Sync		RGB Analog (75 ohms, 0.7 Vp-p) H/V Separated (TTL), Composite, SOG F_H:30~82kHz, F_V:50~85Hz
3.	COMPATIBILITY	PC Mac		VGA up to 1680 x 1050 non-interlaced Power Macintosh up to 1680 x 1050
4.	RESOLUTION	Max		1680 x 1050 @ 60 Hz NI 1600 x 1200 @ 60 Hz NI 1440 x 900 @ 60, 75 Hz NI 1400 x 1050 @ 60, 75 Hz NI 1280 x 1024 @ 60, 75,85 Hz NI 1024 x768 @ 60, 75,85 Hz NI 800 x 600 @ 60, 75 ,85Hz NI 640 x 480 @ 60, 75 , 85 Hz NI
5.	CONNECTOR	Signal Power	Head Head	15 pin mini D-sub Audio in stereo Jack 3 Pin AC Plug, (CEE22)
6.	POWER	Voltage Consumption	AC/DC Internal Power	AC 100 – 240 VAC 50-60 Hz (auto switch) 48W (Typ)
7.	SPEAKER	Stereo		2.5w x2 ,
8.	ERGONOMICS	Tilt	Down Up	5 Degrees 20 Degrees
9.	CONTROLS	Physical OSD

			Short Cut	Vivid]' Opticolor Skin Tone[Nature, reddish ,yellowish] Setup Menu Language [English, French, German, Italian, Spanish, Finnish, Japanese, Simplified Chinese, Traditional Chinese], Resolution Notice, OSD Position, OSD Timeout, OSD Background Memory Recall [1]: Main Menu [2]: Input Select [▼]: Brightness/Contrast [▲]: Opticolor [2]+ [▲]: Opticolor skin tone [▲] + [▼]: Recall Contrast and Brightness [1] and [▼]: Power lock/unlock [1] and [▲]: OSD lock/unlock *[1] These functions are not available in Digital Mode *[2] These functions are not available under SRGB Mode, Opticolor On, and Opticolor Skin Tone On *[3] These functions are not available under Native Resolution Mode *[4] These functions setting can be recalled to default value by pressing [▼]+[▲]
10.	BANDWIDTH	Pixel Clock		Analog 170 Mhz (Max)
11.	DISPLAY AREA			473.76 (H) x 296.1 (V)
12.	OPERATING CONDITION	Temperature Humidity		32℉-104℉(0℃-40℃) 20% to 90% (no condensation)
13.	STORAGE / SHIPPING CONDITION	Temperature Humidity		-4°F to 140°F (-20°C to60°C)° 10% to 90% (no condensation)
14.	DIMENSIONS	Physical Panel Only Packaging	 W/o base 	528 mm (W) x 483 mm (H) x 244 mm (D) 20.8" (W) x 19" (H) x9.6" (D) 524 mm (W) x 483 mm (H) x 65 mm (D) 20.6" (W) x 19" (H) x2.6" (D) 575 mm (W) x 172 mm (H) x 535 mm (D) ; Horizontal-Flat type 22.6 " (W) x 6.8 " (H) x 21.1 " (D)
15.	WEIGHT	Net Net(w/o stand) Gross		6.8 Kg (15 lbs) 5.8 Kg (12.8 lbs) 9.2 Kg (20.3 lbs)
16.	REGULATIONS			Global: CB, MPR II, WEEE,ROHS , ISO13406-2 VSA:UL, cUL, FCC-B, TUV-S, NOM, Energy Star VSE:TUV/ERGO,CE ,GOST-R+Hygienic ,SASO , ENERGY VSI: BSMI, CCC, PSB, C-TICK, MIC VSCN:CCC
17.	RELIABILITY	MTBF		100,000hrs (demonstrated) excluding Light source Light Source MTBF: 40K hrs (Min)
18.	POWER SAVING FUNCTION	"On" "Sleep" "Off"	Green Amber	Normal <2W <1W
19.	LOGISTICS	Container Load Pallet Load	20'/40' Sea	480/1008pcs (Palletized) 48 pcs 7 66907 25142 5

		UPC-A Code ITF-14 Code Serial Format Country of Origin		0 07 66907 25142 5 QJQyywwxxxxx China
20.	SECURITY			Kennsington lock on the bottom right side
21.	Wall Mount	VESA		100mm x 100mm
22.	ACCESSORIES			Power Cable 15 Pin VGA Video Cable Audio Cable Quick Start Guide ViewSonic Wizard CD-ROM w/ 17 Language User Guide
23.	EU Packaging Information	1. Weight of the individual (empty) shipping carton. ---------- Weight =1.3 Kg/box 2. Weight and materials of the poly foam ------ Weight = 217 g/piece, 2 pieces per box, Material = EPS 3. Weight and material of the empty accessory plastic bags --------- Weight = 4g/bag, Material= PE 4. Weight and material of the plastic handle ------- Weight = 10g/piece, Material=PE Plastic 5. Weight and material of the PE bag that covers the monitor -------- Weight = 35g/bag, Material=PE 6. Weight / Material of Pallets: (a) A/E/M/U model -Weight =15.1kg, Material= Solid Wood (Fumigation) (b) S/G/J//K/P model-Weight=15.1kg, Material= Poly wood		

Electrical Requirements

Horizontal / Vertical Frequency

Horizontal Frequency	24 – 82 KHZ
Vertical Refresh Rate	50 – 85 HZ
Maximum Pixel Clock	165 MHz
Sync Polarity	Independent of sync polarity

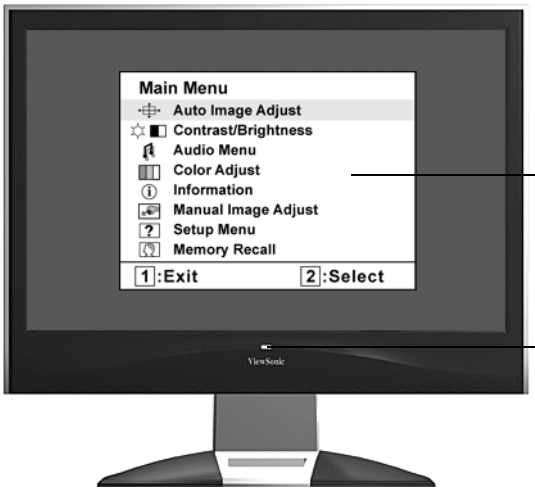
Timing Table

Item	Timing	Analog			Digital - TMDS	Remark
		Separated	Composite	SOG		
1	640 x 350 @ 70 Hz, 31.5 KHz					For SOG sync, OSD will be 720x400@70Hz.
2	640 x 400 @ 60 Hz, 31.5 KHz					For SOG sync, switch 640x400@60Hz and 640x480@60Hz by [1]+[2] short cut key (primary=640x480@60Hz)
3	640 x 400 @ 70 Hz, 31.5 KHz					For Analog sync, OSD will be 640x400@70Hz/720x400@70Hz . (Promary=720x400@70Hz)
4	640 x 480 @ 50 Hz, 24.7 KHz					
5	640 x 480 @ 60 Hz, 31.5 KHz					For SOG sync, switch 640x400@60Hz and 640x480@60Hz by [1]+[2] short cut key (primary=640x480@60Hz)
6	640 x 480 @ 67 Hz, 35 KHz					
7	640 x 480 @ 72 Hz, 37.9 KHz					
8	640 x 480 @ 75 Hz, 37.5 KHz					
9	640 x 480 @ 85 Hz, 43.3 KHz					
10	720 x 400 @ 70 Hz, 31.5 KHz					For Analog sync, OSD will be 640x400@70Hz/720x400@70Hz . (Promary=720x400@70Hz)
11	720 x 480 @ 60 Hz, 31.5 KHz					
12	720 x 576 @ 50 Hz, 31.3 KHz					
13	800 x 600 @ 50 Hz, 24.7 KHz					
14	800 x 600 @ 56 Hz, 35.1 KHz					
15	800 x 600 @ 60 Hz, 37.9 KHz					
16	800 x 600 @ 70 Hz, 43 KHz					
17	800 x 600 @ 72 Hz, 48.1 KHz					
18	800 x 600 @ 75 Hz, 46.9 KHz					
19	800 x 600 @ 85 Hz, 53.7 KHz					
20	832 x 624 @ 75 Hz, 49.7 KHz					
21	1024 x 768 @ 50 Hz, 39.6 KHz					For SOG sync, the Information OSD will be 1024x768@50Hz, the OSD content also can be changed to 1280x768@50Hz by

							[1]+[2] short cut key.
22	1024 x 768 @ 60 Hz, 48.4 KHz						For SOG sync, the Information OSD will be 1024x768@60Hz, the OSD content also can be changed to 1280x768@60Hz by [1]+[2] short cut key.
23	1024 x 768 @ 70 Hz, 56.5 KHz						
24	1024 x 768 @ 72 Hz, 58.1 KHz						
25	1024 x 768 @ 75 Hz, 60 KHz						For SOG sync, the Information OSD will be 1024x768@75Hz, the OSD content also can be changed to 1280x768@75Hz by [1]+[2] short cut key.
26	1024 x 768 @ 85 Hz, 68.7 KHz						
27	1152 x 864 @ 75 Hz, 67.5 KHz						
28	1152 x 870 @ 75 Hz, 68.7 KHz						
29	1280 x 720 @ 50 Hz, 37.5 KHz						
30	1280 x 720 @ 60 Hz, 45 KHz						
31	1280 x 768 @ 50 Hz, 39.6 KHz						For SOG sync, the Information OSD will be 1024x768@50Hz, the OSD content also can be changed to 1280x768@50Hz by [1]+[2] short cut key.
32	1280 x 768 @ 60 Hz, 47.8 KHz						For SOG sync, the Information OSD will be 1024x768@60Hz, the OSD content also can be changed to 1280x768@60Hz by [1]+[2] short cut key.
33	1280 x 768 @ 75 Hz, 60.3 KHz						For SOG sync, the Information OSD will be 1024x768@75Hz, the OSD content also can be changed to 1280x768@75Hz by [1]+[2] short cut key.
34	1280 x 960 @ 50 Hz, 49.4 KHz						
35	1280 x 960 @ 60 Hz, 59.7 KHz						
36	1280 x 960 @ 75 Hz, 75.2 KHz						
37	1280 x 1024 @ 60 Hz, 64 KHz						
38	1280 x 1024 @ 75 Hz, 80 KHz						
39	1400 x 1050 @ 60 Hz, 65.3 KHz						
40	1440 x 900 @ 60 Hz, 55.5 KHz						
41	1440 x 900 @ 75 Hz, 75 KHz						
42	1600 x 1200 @ 60 Hz, 75 KHz						
43	1680 x 1050 @ 60 Hz, 64.7 KHz						For Analog sync, switch 1680x1050@60Hz and 1400x1050@60Hz by [1]+[2] short cut key (primary=1680x1050@60Hz)

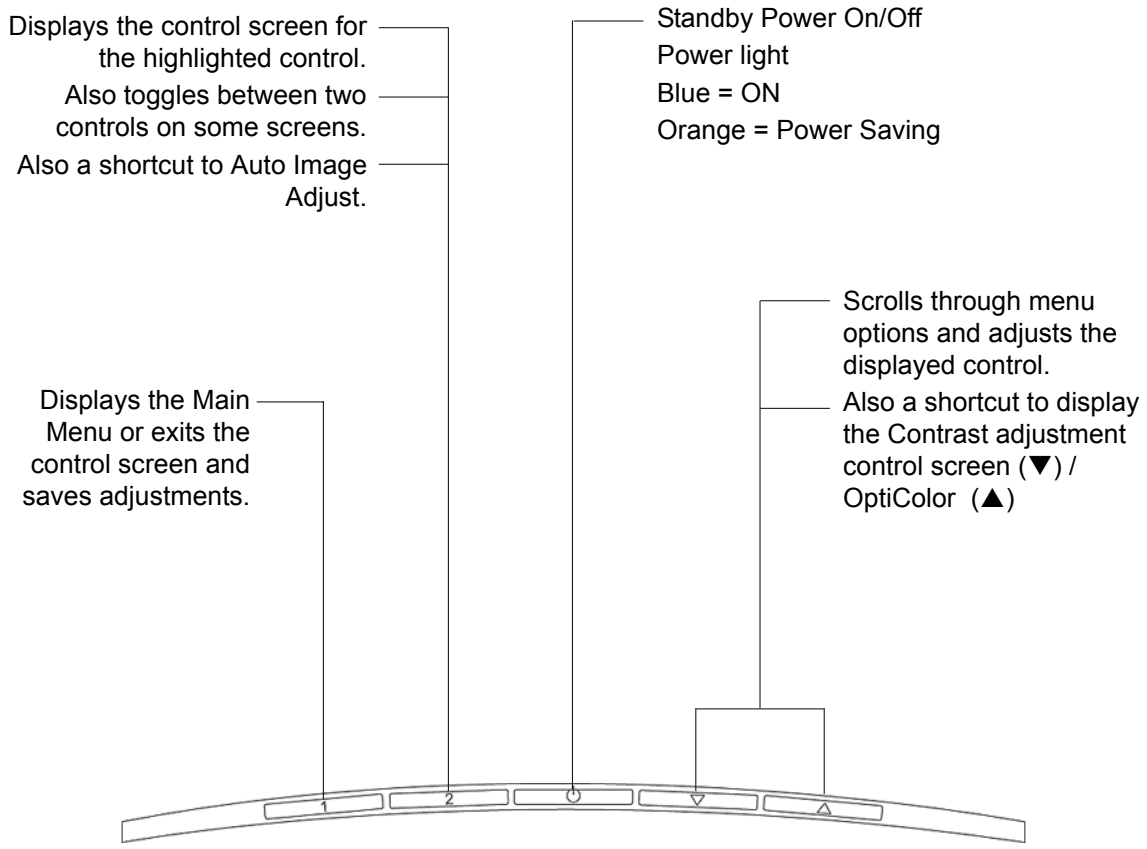
*1. Tolerance ≥ ±2KHz.
*2. Any timing not in the list, it should display as normal or show on “OUT OF RANGE” OSD message without blanking.
*3. The image quality of 85Hz mode might be worse than 75Hz.

3. Front Panel Function Control Description



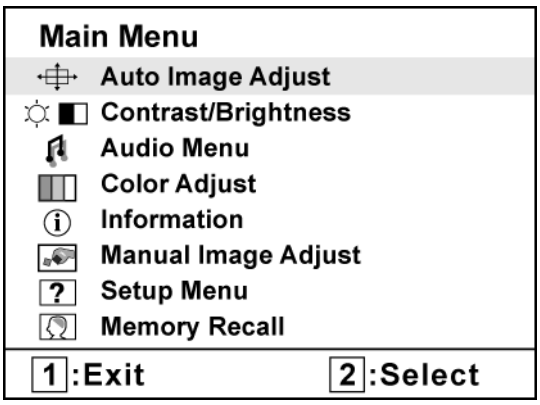
Main Menu
with OSD controls

Front Control Panel
shown below in detail


Displays the control screen for the highlighted control.
Also toggles between two controls on some screens.
Also a shortcut to Auto Image Adjust.
Standby Power On/Off
Power light
Blue = ON
Orange = Power Saving
Scrolls through menu options and adjusts the displayed control.
Also a shortcut to display the Contrast adjustment control screen (▼) / OptiColor (▲)
Displays the Main Menu or exits the control screen and saves adjustments.
1
2

Do the following to adjust the display setting:

1. To display the Main Menu, press button [1].



NOTE: All OSD menus and adjustment screens disappear automatically after about 15 seconds. This is adjustable through the OSD timeout setting in the setup menu.

2. To select a control to adjust, press▲or▼to scroll up or down in the Main Menu.

3. After the desired control is selected, press button [2]. A control screen like the one shown below appears.

The command line at the bottom of the control screen tells what to do next from this screen. You can toggle between control screens, adjust the selected option, or exit the screen.

4. To adjust the setting, press the up ▲ or down ▼ buttons.

5. To save the adjustments and exit the menu, press button [1] *twice*.

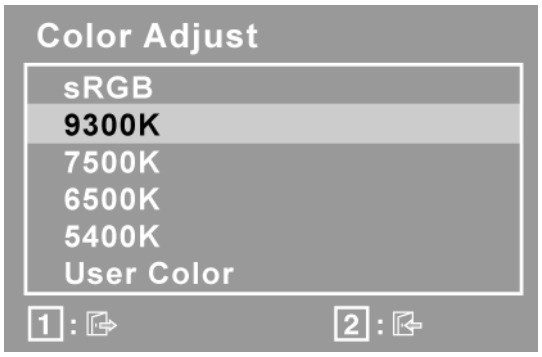
The following tips may help you optimize your display:

- Adjust the computer's graphics card so that it outputs a 1680 x 1050 @ 60Hz video signal to the LCD display. (Look for instructions on "changing the refresh rate" in the graphics card's user guide.)
- If necessary, make small adjustments using H. POSITION and V. POSITION until the screen image is completely visible. (The black border around the edge of the screen should barely touch the illuminated "active area" of the LCD display.)

Main Menu Controls

Adjust the menu items shown below by using the up ▲ and down ▼ buttons.

Control	Explanation
	Auto Image Adjust sizes and centers the screen image automatically.
	Contrast adjusts the difference between the image background (black level) and the foreground (white level).
	Brightness adjusts background black level of the screen image.
	Audio Adjust **Volume** increases the volume, decreases the volume, and mutes the audio. **Mute** temporarily silences audio output.
	Color Adjust provides several color adjustment modes, including preset color temperatures and a User Color mode which allows independent adjustment of red (R), green (G), and blue (B). The factory setting for this product is 6500K (6500 Kelvin).



sRGB-This is quickly becoming the industry standard for color management, with support being included in many of the latest applications. Enabling this setting allows the LCD display to more accurately display colors the way they were originally intended. Enabling the sRGB setting will cause the Contrast and Brightness adjustments to be disabled.

9300K-Adds blue to the screen image for cooler white (used in most office settings with fluorescent lighting).

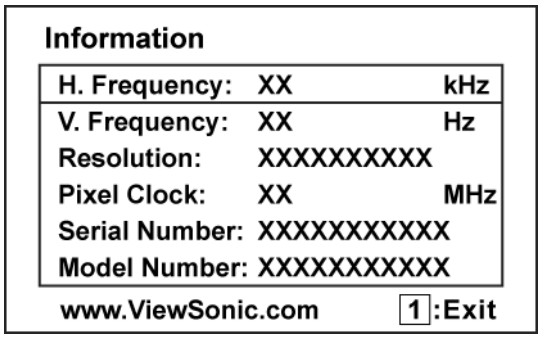
7500K - Adds blue to the screen image for cooler white (used in most office settings with fluorescent lighting).

6500K-Adds red to the screen image for warmer white and richer red.

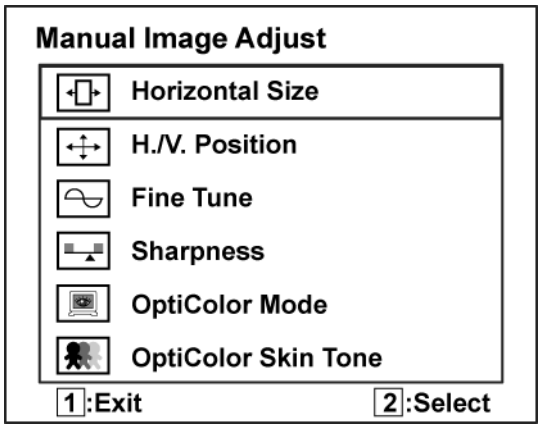
5400K-Adds green to the screen image for a darker color.

User Color Individual adjustments for red (R), green (G), and blue (B).
1. To select color (R, G or B) press button [2].
2. To adjust selected color, press▲and▼.
Important: If you select RECALL from the Main Menu when the product is set to a Preset Timing Mode, colors return to the 6500K factory preset.

Information displays the timing mode (video signal input) coming from the graphics card in the computer, the LCD model number, the serial number, and the ViewSonic® website URL. See your graphics card's user guide for instructions on changing the resolution and refresh rate (vertical frequency).
NOTE: VESA 1680 x 1050 @ 60Hz (recommended) means that the resolution is 1680 x 1050 and the refresh rate is 60 Hertz.

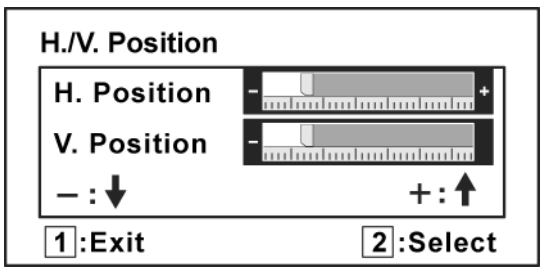


Manual Image Adjust



Horizontal Size adjusts the width of the screen image.

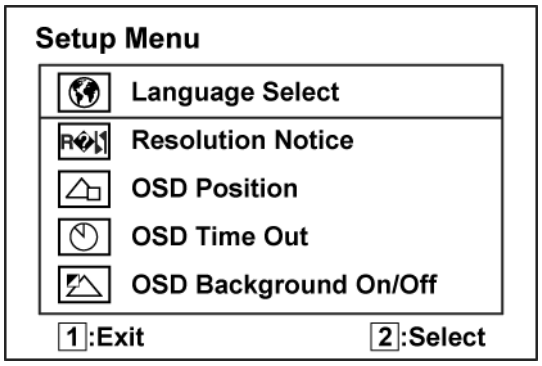
H./V. Position (Horizontal/Vertical Position) moves the screen image left or right and up or down.



Control	Explanation
	Fine Tune sharpens the focus by aligning text and/or graphics with pixel boundaries. **NOTE:** Try Auto Image Adjust first.
	Sharpness adjusts the clarity and focus of the screen image.
	OptiColor Mode provides an optimum display environment depending on the contents displayed. It contains 7 user-selectable presets. These 7 presets are easily accessible from the short cut keys. **Standard** is for general windows environment and monitor default setting. **Text** optimized for text editing and viewing in a word processing environment. **Cinema** optimized for movie and video environment. **Game** optimized for PC/TV game environment. **Portrait** optimized for displaying indoor portraits and enhancing pictures. **Scenery** optimized for displaying outdoor scenery images. **Vivid** optimized for color luster and sharpness. These 7 presets are carefully chosen by Viewsonic, but may not suit all users' tastes. In that case, the user can either return to the Standard setting and manually adjust the brightness and contrast as desired.
	OptiColor Skin Tone includes 3 presets (Natural / Red Tone / Yellow Tone) which user can select according to user's preference.

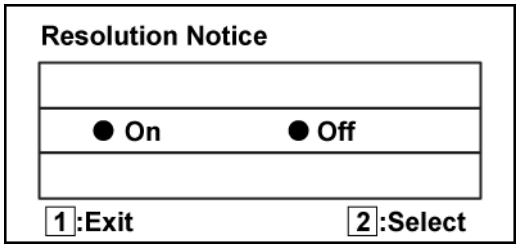
Control	Explanation

Setup Menu displays the menu shown below:

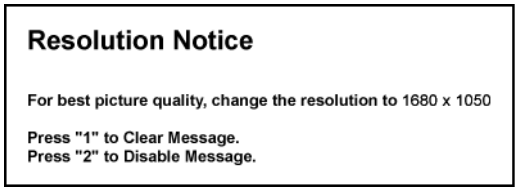


Language Select allows the user to choose the language used in the menus and control screens.

Resolution Notice allows the user to enable or disable this notice.



If you enable the Resolution Notice shown above and your computer is set at a resolution other than 1680 x 1050, the following screen appears.


Resolution Notice
For best picture quality, change the resolution to 1680 x 1050
Press "1" to Clear Message.
Press "2" to Disable Message.

OSD Position allows the user to move the OSD menus and control screens.

OSD Timeout sets the length of time the OSD screen is displayed. For example, with a “30 second” setting, if a control is not pushed within 30 seconds, the display screen disappears.

OSD Background allows the user to turn the OSD background On or Off.

Memory Recall returns the adjustments back to factory settings if the display is operating in a factory Preset Timing Mode listed in the Specifications of this manual.

RTD2553V
LCD Monitor/MFM Controller
General
- Embedded dual DDC with DDC1/2B/CI
- Zoom scaling up and down
- No external memory required.
- Require only one crystal to generate all timing.
- Programmable 3.3V/5V detection reset output.
- Embedded crystal output to micro-controller.
- 3 channels 8 bits PWM output, and wide range selectable PWM frequency.

Analog RGB Input Interface
- Integrated 8-bit triple-channel 210/165 (optional) MHz ADC/PLL
- Embedded programmable Schmitt trigger of HSYNC
- Support Sync On Green (SOG) and various kinds of composite sync modes
- On-chip high-performance hybrid PLLs
- High resolution true 64 phase ADC PLL
- Y/Pb/Pr support up to HDTV 1080i resolution
- Support 2/1 Analog input (optional)

Digital Video Input Interface
- Support 8-bit video (ITU 656) format input
- Support 16-bit video (ITU 601) format input (optional)
- Built-in YUV to RGB color space converter & de-interlace

DVI Compliant Digital Input Interface (optional)
- Single link on-chip TMDS receiver
- Support to 165Mhz with long cable
- Adaptive algorithm for TMDS capability
- Data enable only mode support
- High-Bandwidth Digital Content Protection (HDCP 1.1) (optional only in H version)
- Enhanced protection of HDCP secret key (optional only in H version)

Auto Detection /Auto Calibration
- Input format detection
- Compatibility with standard VESA mode and support user-defined mode
- Smart engine for Phase/Image position/Color calibration

Scaling
- Fully programmable zoom ratios
- Independent horizontal/vertical scaling
- Advanced zoom algorithm provides high image quality
- Sharpness/Smooth filter enhancement
- Support non-linear scaling from 4:3 to 16:9 or 16:9 to 4:3

Vivid Color.
- Dynamic Contrast Control (DCC)
- Independent Color Management (ICM)
- True 10 bits color processing engine
- sRGB compliance
- Advanced Dithering logic for 18-bit panel color depth enhancement
- Dynamic overshoot-smear canceling engine
- Brightness and contrast control
- Programmable 10-bit gamma support

Output Interface
- Fully programmable display timing generator
- Flexible data pair swapping for easier system design.
- Programmable TCON function support
- Multi-output interface (RSDS/LVDS/TTL)on single PCB
- Spread-Spectrum DPLL to reduce EMI
- Fixed Last Line output for perfect panel capability

Host Interface
- Support MCU serial/parallel bus interface.
- Support MCU dual edge data latch.

Embedded OSD

- Embedded 12K SRAM dynamically stores OSD command and fonts
- Support multi-color RAM font, 1, 2 and 4-bit per pixel
- 16 color palette with 24bit true color selection
- Maximum 8 window with alpha-blending/gradient/dynamic fade-in/fade-out, bordering/shadow/3D window type
- Rotary 90,180,270 degree
- Independent row shadowing/bordering
- Programmable blinking effects for each character
- OSD-made internal pattern generator for factory mode
- Support 12x18~4x18 proportional font
- Decompress OSD font

Power & Technology

- 3.3V power supplier
- 0.18um CMOS process, 128-pin QFP package
- Embedded 3.3V to 1.8V voltage regulator

Analog Input

RTD integrates three ADC's (analog-to-digital converters), one for each color (red, green, and blue). The sync-processor can deal with Separate-Sync, Composite-Sync, and Sync-On-Green. And the PLL can generate very low jitter clock from HS to sample the analog signal to digital data. Input data is latched within a capture window defined in registers refer to VS and HS leading edge. RTD also has 2 ADC input, we can switch these 2 input to choose which input we want to present on RTD embedded LCD monitor.

RTD has a YPbPr input, we can connect DVD or some devices that has YPbPr input, YPbPr input can be 1st or 2nd ADC pins.

TMDS Input

RTD integrates high-speed single link receiver function. It can operate up to 165 M at long cable. RTD integrates an equalizer to enhance the cable loss weakness in long cable application and the advanced tracking algorithm to have better performance in DVI RX.

Display Output Timing

The display output port sends single/double pixel data transfer and synchronized display timing to an external device. The display port also support display panel with 6-bit per color, turn on the dithering function to enhance color depth. In single pixel output mode, single pixel data (24-bit RGB) is transferred to display port A on each active edge of DCLK, the rate of DCLK is also equal to display pixel clock. The sync & enable signals are also sent to display port on each active edge of DCLK. In double pixel output mode, double pixel data (48-bit RGB) is transferred to display port A & B on each active edge of DCLK and the rate of DCLK is equal to half display pixel clock at this moment.
The sync & enable signals are also sent to display port on each active edge of DCLK.

Color Processing

Digital color R & G & B independent channel sRGB, contrast, brightness, gamma, dithering controls are built in RTD. sRGB compliance function is provided with 9 multipliers. The contrast control is performed a multiply value from 0 to 2 for each R/G/B channel. The brightness control is used to set an offset value from －512 to +511 also for each R/G/B channel. Also RTD provided 10 bit gamma and a high performance dithering function.

Build-In OSD

The detailed function-description of build-in OSD, please refer to the application note for RTD embedded OSD.

Color LUT & Overlay Port

The following diagram presents the data flow among the gamma correction, dithering, overlay MUX, OSD LUT and output format conversion blocks.

Auto-Adjustment

There are two main independent auto-adjustment functions supported by RTD, including auto-position & auto-tracking. The operation procedure is as following;

Auto-Position
1. Define the RGB color noise margin: When the value of color channel R or G or B is greater than these noise margins, a valid pixel is found.
2. Define the threshold-pixel for vertical boundary search
3. Define the boundary window of searching for horizontal boundary search.
4. Start auto-function.
5. The result can be read from register.

Auto-Tracking
1. Setting the control-registers for the function (auto-phase, auto-balance) according to the Control-Table.
2. Define the Threshold
3. Define the boundary window of searching for tracking window.
4. Start auto-function.
5. The result can be read from register

PLL System
Inside the RTD, there are four PLL systems for display clock and ADC sample clock (PLL1, PLL2,M2PLL, DPLL).

DCLK PLL
DPLL frequency = F_IN * DPM / DPN * Divider.
F_IN is input crystal frequency. DPM and DPN is in ***DPLL_M*** and ***DPLL_N***.
DPLL_N, and it divide PLL frequency by 1, 2, 4 or 8.
According to parameter DPN, you must set LPF Mode in ***DPLL_WD***. If LPF Mode is 1, the charge pump current, Ich, must be DPM/17.6, while Ich must be DPM/1.67 if LPF Mode is 0. The charge pump current Ich is in ***DPLL_CRNT***.
Spread-Spectrum function is also build in DCLK to reduce EMI. You can control the SSP_I, SSP_W, and FMDIV to fine-tune the EMI.
M2PLL is a PLL used to power-on reset, FIFO clock and Internal crystal clock. After power-on reset, M2PLL output 10 times frequency of crystal clock. According to crystal frequency, set M2PLL to keep FIFO clock frequency between 240MHz and 250MHz.

ADC Pixel Sampling PLL
The input pixel sampling PLL of RTD compose of PLL1 and PLL2 and DDS, the hybrid PLL system inherently has a process-independent advantages comparing with pure analog PLL, DDS synthesizer is in charge of the phase-frequency control, PLL1 provided a high frequency to get a larger bandwidth letting the system fast locking, PLL2 finally synthesize the desired pixel sampling clock. The block diagram shown below describes our high-performance tracking system.

Host Interface

Parallel/Serial Port Determination:
After RESET end, the status of pin 5 (TMDS_TST) can be sensed to determine the interface mode: high for parallel port, low, low for serial port.

Host Interface Location Determination:
After the falling edge of RESET signal, the status of pin 3 can be sensed to determine the host interface location: high for 112-115,118,119, and low for 52-57

Reset Output
We have the RESET_OUT function, and also reserve the RESET_IN function. By the bounding of internal pins we can select two kinds of reset function. First of all is only reset-out, we can output the reset signal to MCU, and the MCU can reset the RTD by firmware. The second is RTD output reset and also reset itself. Notice that the reset output is positive polarity, besides, the reset output is open-drain pin, please don't forget to attach a **pull-up resistor (10K).** The reset function for 3.3V operating voltage detection is determined by **33VRST_REF** voltage, No matter 5V or 3.3V MCU is been used, divider the input voltage on 33VRST_REF to 2.2V for internal power sensing circuit detecting, the divider resistor should be 10K level avoiding current leakage.

The Programmable Schmitt Trigger of HSYNC
To get better waveform of the input HSYNC, we have a programmable Schmitt Trigger circuit. For different HSYNC amplitude and polarity, we can select different setting of the threshold voltage. The **Vt +** and the **Vt -** can be selected by register CR97 We can select the old mode or the new mode. When using the new mode we can directly determine the positive threshold voltage (1.4V, 1.6V… 2.6V), and we can choose the hysterias from
the **Vt +** to determine the **Vt -** (0.6V, 0.8V, 1.0V, 1.2V). We also can finely tune the voltage by minus 0.1V. For application, we can select different threshold voltage by the polarity of the HSYNC. The control register is CR97

Crystal Frequency Output

RTD can output crystal frequency or 1/2 crystal frequency to external MCU to save a crystal device. Once power state is on and reset is finished, we can set crystal frequency by firmware and output to pin 48 and pin 110 simultaneously, and then can turn off them in Pin Share Part. Pin 48 and PIN 110 is configurable, detail setting is listed in Pin-Share part

RTD2120 8051 Embedded Micro-Controller for Monitor

Overview

This chip is the micro-processor of LCD monitor. It uses the design ware DW8051 of Synopsys as the 8051 core of this chip and is compatible with other industry 8051 series. Also, 96Kbyte FLASH with 8 bit bus is embedded in this chip which is licensed from TSMC 0.18um e-FLASH process. Here we use the package of PLCC44/LQFP48 if we would like to have a discrete MCU controller or we make a multi-chip package with our LCD monitor controller to form one chip package to save the cost of package and PCB material.

Features

Operating voltage range : 3.0V to 3.6V
8051 core, CPU operating frequency up to 50MHz
4 clocks per machine cycle
256-byte internal RAM
512-byte external data RAM, including 256-byte DDC RAM(128-byte x 2) and 256-byte general purpose RAM
96K-byte flash memory, 64k for program and 32k for saving parameter
Two DDC ports compliant with VESA DDC1/2B/2Bi/CI
Three channels of PWM DAC with programable frequency from 100K to 100Hz
Watchdog timer with programmable interval
Three 16-bit counters/timers (T0, T1, and T2)
One PLL to provide programmable operating frequency and clock output, 2 clock output ports
One full-duplex serial port
Six interrupt sources with 2 external interrupts

- Four channels of 6-bit ADC
- Hardware In System Programming(ISP) capability, no boot code required
- Built-in Low voltage reset circuit
- Embedded 1.8V regulator
- Code protection
- Available in 44-pin PLCC or 48-pin LQFP package

AUDIO **STEREO CLASS-D AUDIO POWER AMPLIFIER**

DESCRIPTION

The TPA2008D2 is a third generation 5-V class-D amplifier from Texas Instruments. Improvements to previous generation devices include: dc volume con-trol, lower supply current, lower noise loor ,higher efficiency, smaller packaging, and fewer external components. Most notably, a new filter-free class-D modulation technique allows the TPA2008D2 to directly drive the speakers, without needing a low-pass output filter consisting of two inductors and three capacitors per channel. Eliminating this output filter saves approximately 30% in system cost and 75% in PCB area.

The improvements and functionality make this device ideal for LCD projectors, LCD on itors ,powered speakers, and other applications that demand more battery life, reduced board space, and functionality that surpasses currently available class-D devices.

A chip-level shutdown control limits total supply current to 1 μA, making the device ideal for bat-Tery powered applications. Protection circuitry in-creases device reliability: thermal and short circuit. Under voltage shutdown saves battery power for more essential devices when battery voltage drops to low leve.

1. Function Test

1.1 Product
- 22” LCD Monitor

1.2 Test Equipment
- Color Video Signal & Pattern (or PC with WSXGA+ resolution and a sound card)

1.3 Test Condition
Before function test and alignment, each LCD Monitor should be run-in and warmed up for at least 30 minutes with the following conditions:
(a) In room temperature,
(b) With full-white screen, RGB, and Black
(c) With cycled display modes,
640*480 (H=43.27kHz, V=85Hz)
800*600 (H=53.7kHz, V=85Hz)
1024*768 (H=68.67kHz, V=85Hz)
1680*1050 (H=64.7kHz, V=60Hz)

1.4 Test Display Modes & Pattern
1.4.1 Compatible Modes

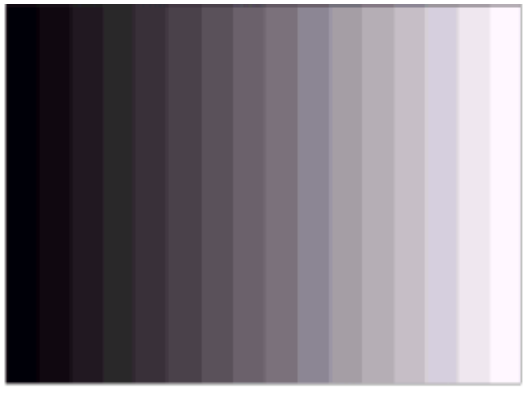
Analog	Digital
1. 640 x 350 @ 70Hz, 31.5kHz	640 x 350 @ 70Hz, 31.5kHz
2. 640 x 400 @ 60Hz, 31.5kHz	640 x 400 @ 60Hz, 31.5kHz
3. 640 x 400 @ 70Hz, 31.5kHz	640 x 400 @ 70Hz, 31.5kHz
4. 640 x 480 @ 50Hz, 24.7kHz	640 x 480 @ 50Hz, 24.7kHz
5. 640 x 480 @ 60Hz, 31.5kHz	640 x 480 @ 60Hz, 31.5kHz
6. 640 x 480 @ 67Hz, 35.0kHz	640 x 480 @ 67Hz, 35.0kHz
7. 640 x 480 @ 72Hz, 37.9kHz	640 x 480 @ 72Hz, 37.9kHz
8. 640 x 480 @ 75Hz, 37.5kHz	640 x 480 @ 75Hz, 37.5kHz
9. 640 x 480 @ 85Hz, 43.27kHz	640 x 480 @ 85Hz, 43.27kHz
10. 720 x 400 @ 70Hz, 31.5kHz	720 x 400 @ 70Hz, 31.5kHz
11. 720 x 480 @ 60Hz, 31.5kHz	720 x 480 @ 60Hz, 31.5kHz
12. 720 x 576 @ 50Hz, 31.3kHz	720 x 576 @ 50Hz, 31.3kHz
13. 800 x 600 @ 50Hz, 24.7kHz	800 x 600 @ 50Hz, 24.7kHz
14. 800 x 600 @ 56Hz, 35.1kHz	800 x 600 @ 56Hz, 35.1kHz
15. 800 x 600 @ 60Hz, 37.9kHz	800 x 600 @ 60Hz, 37.9kHz
16. 800 x 600 @ 70Hz, 43 kHz	800 x 600 @ 70Hz, 43 kHz
17. 800 x 600 @ 72Hz, 48.1kHz	800 x 600 @ 72Hz, 48.1kHz
18. 800 x 600 @ 75Hz, 46.9kHz	800 x 600 @ 75Hz, 46.9kHz
19. 800 x 600 @ 85Hz, 53.7kHz	800 x 600 @ 85Hz, 53.7kHz
20. 832 x 624 @ 75Hz, 49.7kHz	832 x 624 @ 75Hz, 49.7kHz
21. 1024 x 768 @ 50Hz, 39.6kHz	1024 x 768 @ 50Hz, 39.6kHz
22. 1024 x 768 @ 60Hz, 48.4kHz	1024 x 768 @ 60Hz, 48.4kHz
23. 1024 x 768 @ 70Hz, 56.5kHz	1024 x 768 @ 70Hz, 56.5kHz
24. 1024 x 768 @ 72Hz, 58.1kHz	1024 x 768 @ 72Hz, 58.1kHz
25. 1024 x 768 @ 75Hz, 60 kHz	1024 x 768 @ 75Hz, 60 kHz
26. 1024 x 768 @ 85Hz, 68.7 kHz	1024 x 768 @ 85Hz, 68.7 kHz
27. 1152 x 864 @ 75Hz, 67.5 kHz	1152 x 864 @ 75Hz, 67.5 kHz
28. 1152 x 870 @ 75Hz, 68.7 kHz	1152 x 870 @ 75Hz, 68.7 kHz

Analog	Digital
29. 1280 x 720 @ 50Hz, 37.5 kHz	1280 x 720 @ 50Hz, 37.5 kHz
30. 1280 x 720 @ 60Hz, 45 kHz	1280 x 720 @ 60Hz, 45 kHz
31. 1280 x 768 @ 50Hz, 39.6 kHz	1280 x 768 @ 50Hz, 39.6 kHz
32. 1280 x 768 @ 60Hz, 47.8 kHz	1280 x 768 @ 60Hz, 47.8 kHz
33. 1280 x 768 @ 75Hz, 60.3 kHz	1280 x 768 @ 75Hz, 60.3 kHz
34. 1280 x 960 @ 50Hz, 49.4 kHz	1280 x 960 @ 50Hz, 49.4 kHz
35. 1280 x 960 @ 60Hz, 59.7 kHz	1280 x 960 @ 60Hz, 59.7 kHz
36. 1280 x 960 @ 75Hz, 75.2 kHz	1280 x 960 @ 75Hz, 75.2 kHz
37. 1280 x 1024 @ 60Hz, 64 kHz	1280 x 1024 @ 60Hz, 64 kHz
38. 1280 x 1024 @ 75Hz, 80 kHz	1280 x 1024 @ 75Hz, 80 kHz
39. 1400 x 1050 @ 60Hz, 65.3 kHz	1400 x 1050 @ 60Hz, 65.3 kHz
40. 1400 x 900 @ 60Hz, 55.5 kHz	1400 x 900 @ 60Hz, 55.5 kHz
41. 1400 x 900 @ 75Hz, 75 kHz	1400 x 900 @ 75Hz, 75 kHz
42. 1600 x 1200 @ 60Hz, 75 kHz	1600 x 1200 @ 60Hz, 75 kHz
43. 1680 x 1050 @ 60Hz, 64.7 kHz	1680 x 1050 @ 60Hz, 64.7 kHz

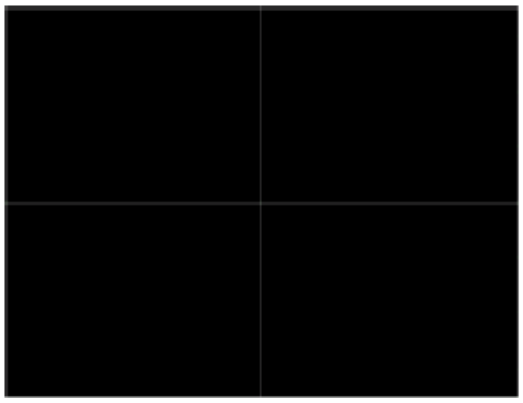
1.4.2 Function Test Display Pattern

Item	Test Content	Pattern	Specification	Remark
1	Frequency & Tracking	Fine Line Moire	Eliminate visual wavy noise.	Figure 1
2	Contrast/Brightness	16 Gray Scale	16 gray levels should be distinguishable.	Figure 2
3	Boundary	Horizontal & Vertical Thickness	Horizontal and Vertical position of video should be adjustable to be within the screen frame.	Figure 3
4	RGB Color Performance	RGB Color Intensities	Contrast of each R, G, B, color should be normal.	Figure 4, 5, 6
5	Screen Uniformity & Flicker	Full White	Should be compliant with the spec.	Figure 7
6	Dead Pixel/Line	White Screen & Dark Screen	The numbers of dead pixels should be compliant with the spec.	Figure 7, 8
7	White Balance	White & Black Pattern	The screen must have the pure white and black pattern, no other color.	Figure 9

Fine Line Morie Pattern (Figure1)



Gray Scale Pattern (Figure2)



Horizontal & Vertical Thickness Pattern (Figure 3)

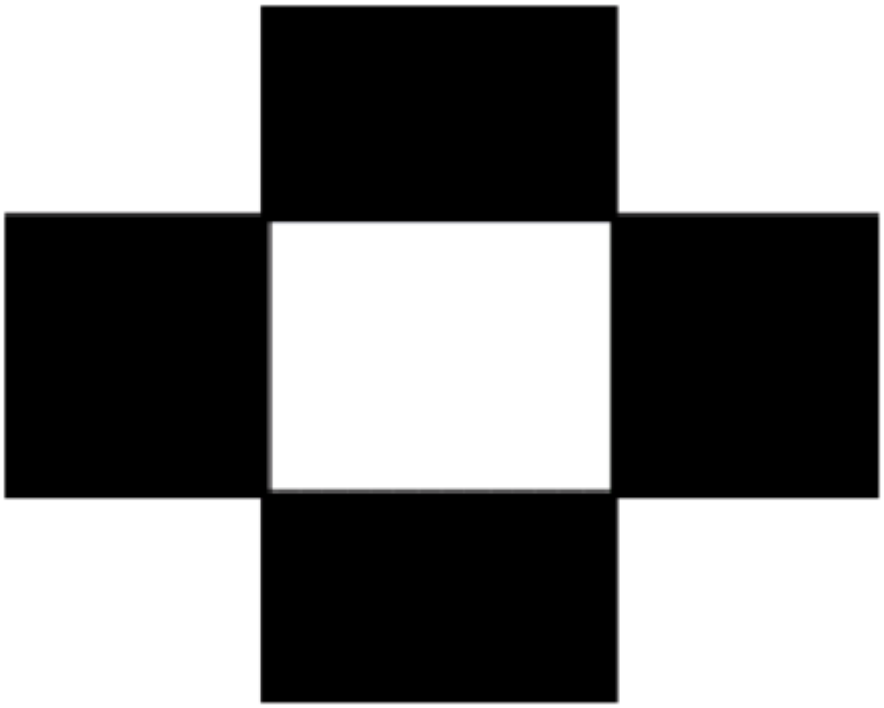
R. Color Pattern (Figure 4)

G. Color Pattern (Figure5)

B. Color Pattern (Figure 6)

Full White Patter (Figure 7)

Dark Screen Pattern (Figure 8)



Black-White Pattern (Figure 9)

1.5 Function Test and Alignment Procedure

1.5.1 All Modes Reset

You should do "All Mode Reset" (Refer to Chapter III-3. Hot Keys for Function Controls) first. This action will allow you to erase all end-user's settings and restore the factory defaults.

1.5.2 Auto Image Adjust

Please select and enter *"**Auto Image Adjust**"* function on Main Menu to see if it is workable. The *"**Auto Image Adjust**"* function is aimed to offer a better screen quality by built-in ASIC. For optimum screen quality, the user has to adjust each function manually.

1.5.3 Firmware

Test Pattern: Burn In Mode (Refer to Chapter III-3. Hot Keys for Function Controls)
- Make sure the F/W is the latest version.

1.5.4 DDC

Test Pattern: EDID program
- Make sure it can pass test program.

1.5.5 Fine Tune and Sharpness

Test Signal: 1680*1050@60Hz
Test Pattern: Line Moire Pattern
- Check and see if the image has noise and focus performs well. Eliminate visual line bar.
- If not, readjust by the following steps:

(a) Select and enter "**Fine Tune**" function on "**Manual Image Adjust**" to adjust the image to eliminate visual wavy noise.
(b) Then, select and enter "**Sharpness**" function to adjust the clarity and focus of the screen image.

1.5.6 Boundary

Test Signal: 1680*1050@60Hz
Test Pattern: Horizontal & Vertical Line Thickness Pattern
- Check and see if the image boundary is within the screen frame.
- If not, readjust by the following steps:

(a) Select and enter "**Manual Image Adjust**" function on OSD Main Menu.
(b) Then, select and enter "**Horizontal Size**" or "**Horizontal/Vertical Position**" function to adjust the video boundary to be full scanned and within screen frame.

1.5.7 White Balance
Test Signal: 1680*1050@60Hz
Test Pattern: White and Black Pattern

1.5.8 R, G, B, Colors Contrast
Test Signal: 1680*1050@60Hz
Test Pattern: R, G, B, Color Intensities Pattern and 16 Gray Scale Pattern
- Check and see if each color is normal and distinguishable.
- If not, please return the unit to repair area.

1.5.9 Screen Uniformity and Flicker
Test Signal: 1680*1050@60Hz
Test Pattern: Full White Pattern
- Check and see if it is in normal condition.

1.5.10 Dead Pixel and Line
Test Signal: 1680*1050@60Hz
Test Pattern: Dark and White Screen Pattern
- Check and see if there are dead pixels on LCD panel with shadow gauge and filter film.
- The total numbers and distance of dead pixels should be compliant with the spec.

1.5.11 Mura
Test Pattern: White, RGB, Black, & Grey
Test Tool: 8% ND Filter
- Check if the Mura can pass 8% ND Filter.

1.5.12 Audio
Test Signal: Voice signal (optional, depend on model)
Test Pattern: liberty
- Make sure there is audio output.
- Make sure that audio function (volume 80%) is working without noise and resonance. ≦
- Make sure that the sound of right and left speakers are in balance.

1.5.13 Check for Secondary Display Modes
Test Signal:
Analog: 640*350@70Hz; 640*480@60HZ
720*400@70Hz; 800*600@60HZ/70HZ/75HZ
832*624@75Hz, 1024*768@60HZ/70HZ/75HZ
1280*1024@60/75Hz
Digital: 640*350@70Hz; 640*480@60HZ
720*400@70Hz; 800*600@60HZ/70HZ/75HZ
1024*768@60/70/72/75; 1152*870@75Hz,
1280*1024@60Hz/75HZ
- Normally when the primary mode 1280*1024@60Hz is well adjusted and compliant with the specification, the secondary display modes will be great possible to be compliant with the spec. But we still have to check with the general test pattern to make sure every secondary is compliant with the specification.

1.5.14 All Modes Reset
After final QC step, we have to erase all saved changes again and restore the factory defaults. You should do "All Mode Reset" again.

1.5.15 Power Off Monitor
Turn off the monitor by pressing "Power" button.

2. Firmware Upgrade Procedure

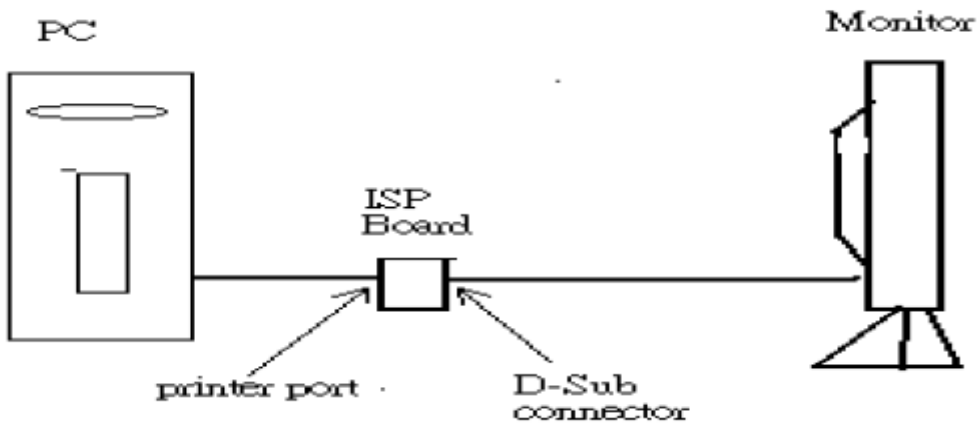
When you receive the returned monitor, please check whether the firmware version is the latest.
If not, please do the following procedures to upgrade it to the latest version.

2.1 Equipment Needed
- VX2235WM4 Monitor
- Fixture for Firmware Upgrade
- VGA Cable
- PC (Personal Computer)
- LPT Cable
- Firmware Upgrade Program
- One additional monitor for checking the program execution

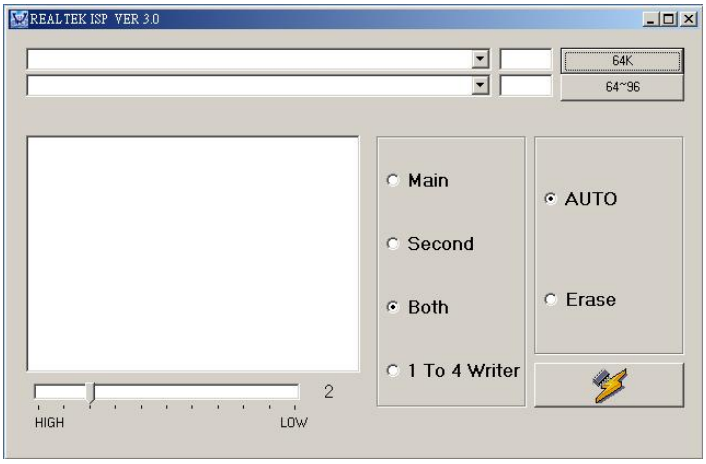
2.2 Setup Procedure
2.2.1 Connect P2 of Fixture with printer port of PC by LPT Cable.
2.2.2 Connect P1 of Fixture with Monitor by VGA Cable.
2.2.3 Connect Power Cord to Monitor.
2.2.4 Connect PC to the additional monitor.

I. ISP Download program procedure

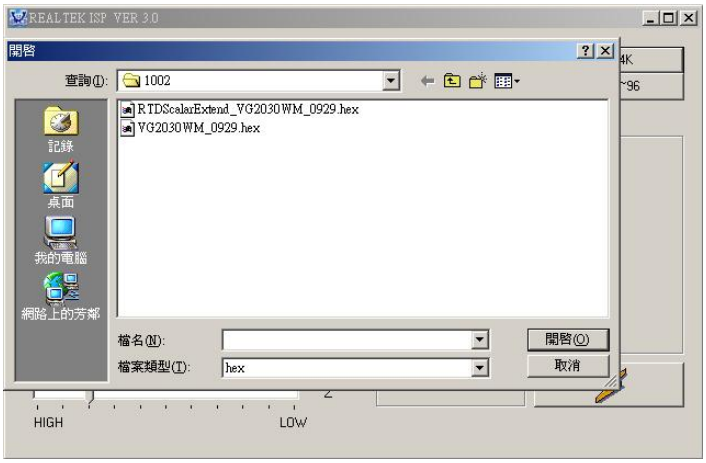
1 Hardware Connect status:



2 Down load isp program
Step 1: Execute ISP.exe

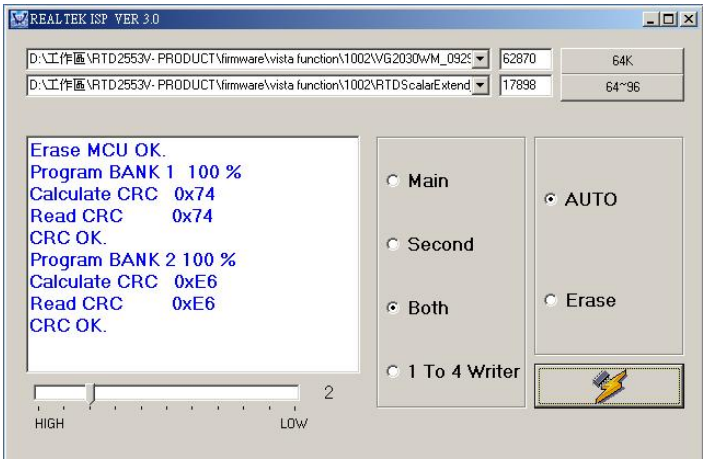


Step 2: Load file
Press the Load MCU File button to select the file will be download. (*.hex)



Step 3: Run
Pressing the Run Button to start download program. Press OK button to Enter ISP mode.

Step 4: Download program finish
Pressing the OK Button to finish the download program procedure.



Trouble shooting:
If you find the status like the follow picture. Please check the following item.
a. The connecting status between PC and ISP board.
b. The connecting status between ISP status and Monitor.
Turn off the power of monitor (AC plug off) and disconnect the D-Sub connector . To connect the D-Sub connector and then turn on the power of monitor.(AC plug on)

3. DDC Key In Procedure

Note:

1. Every time after replacing the main board, you have to do the DDC key in.
2. If you find the DDC does not conform to the monitor, you have to do the DDC key in.

3.1 Equipment Needed

- VX2235WM4 Series Monitor
- DDC Card
- PC
- RS232 cable
- DVI-DVI Cable
- Barcode Reader
- VGA Cable

VX2235WM4

DDC Card

PC

RS232 cable

VGA cable

BAR code reader

3.2 Setup Procedure

1.Connect VGA Card and DDC Card with RS-232 cable.

2.Barcode Reader connect with keyboard and PC keyboard port.

3.Connect RS-232 Cable and VX2235WM4 with VGA Cable.

4.(when key in DVI DDC information, use VGA transform to DVI port)

5.Connect Power Cord to VX2235WM4 Monitor.

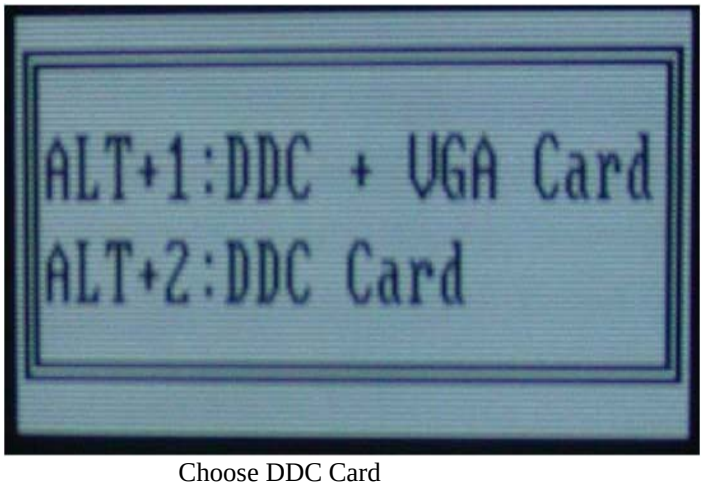
3.3 DDC Key In Procedure

1.Run DDC.exe

2.Choose model number and conform the Time then Press “ENTER” key.

VIEWSONIC
Please confirm the Month-Day-Year is correct or not:
If it was correct, please press the " enter " key.
If it was wrong, please enter the correct Month-Day-Year.

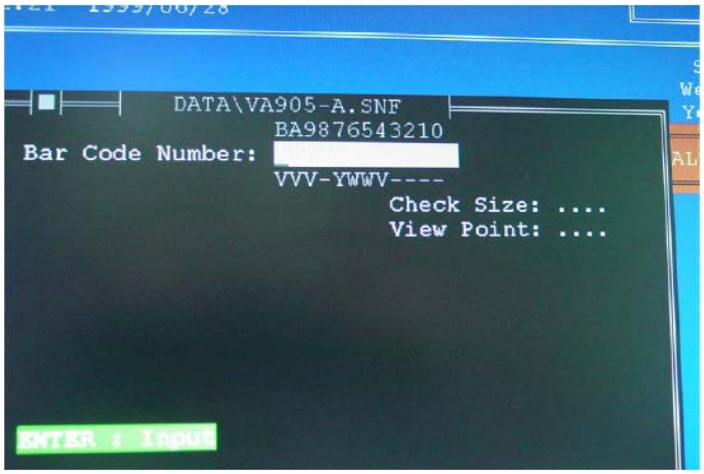
3.When appear the PIC “ choose DDC Card”, Press ALT+2 .Enter DDC 2B test interface.



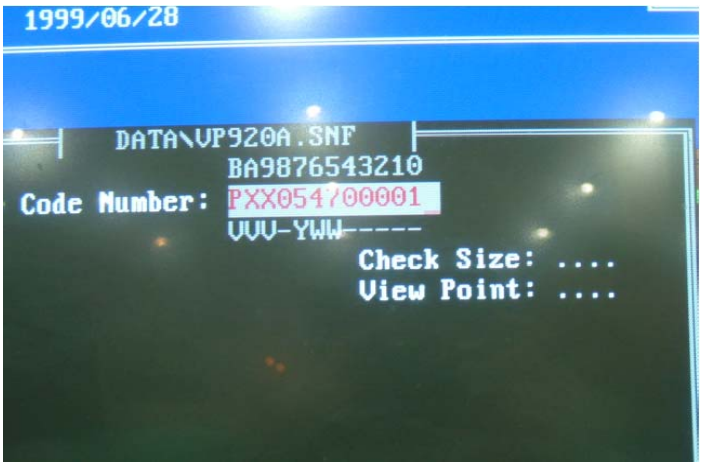
Choose DDC Card

4.Press F8 to choose corresponding model.DAT(VX2235WM4A.DAT press“ENTER” key)
VX2235WM4_A means the DDC under analog mode. VX2235WM4D means the DDC under digital mode.

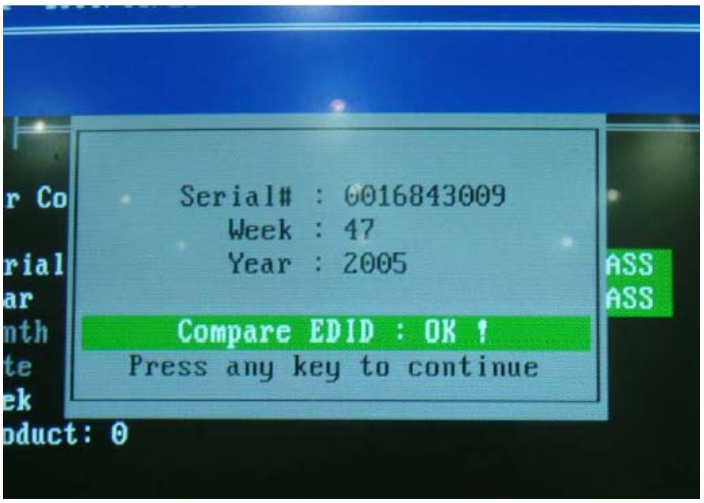
5.Press F9 enter the download interface



6.Key in the serial number or use the barcode reader to scan the barcode of the monitor, and press “ENTER” key.



7.The successful picture is as follows. ”Compare EDID ：OK! Press any key to continue”.



Packing For Shipping And Disassembly Procedure

Packing For Shipping

1. Packing Procedure

1.1 Paste protection film to protect the LCD TV. (Figure 1)

1.2 Put the LCD TV in the PE bag and seal the bag. (Figure 2~3)

Figure 1

Figure 2

Figure 3

1.3 Put the cushions on the LCD TV. (Figure 4)

1.4 Place the LCD TV into the carton and then Put the other cushions on the LCD TV,put all the accessories into the carton. At last, close the carton and seal it with tape. (Figure 5)

Figure 4

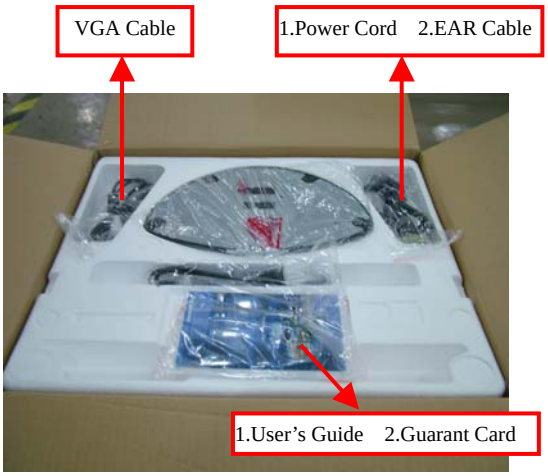


Figure 5

Disassembly Procedure

1. Disassembly of Stand and Dust Cover from LCD TV.

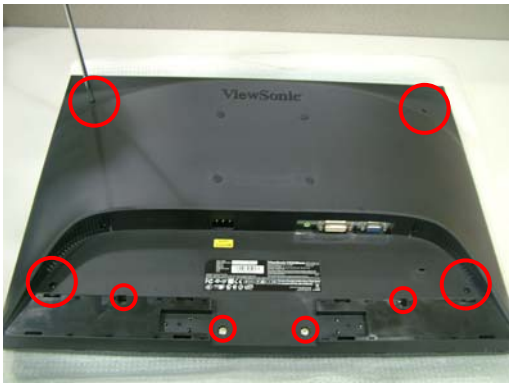
1.1 Unscrew 4 screws that secure Stand Unit and detach Dust Cover from the LCD TV.

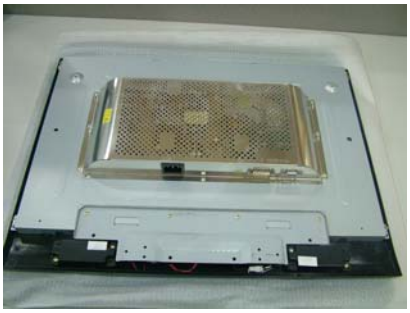
Stand

Dust Cover

2. Disassembly of Rear Cover.

2.1 Unscrew 8 screws to remove Rear Cover.

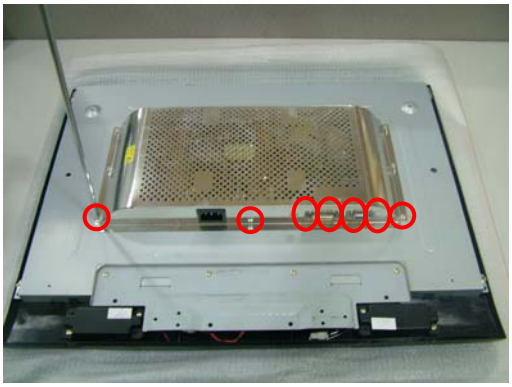




Rear Cover

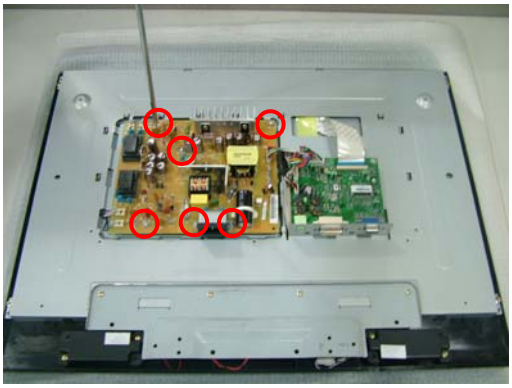
3. Disassembly of Main Board,Power Board,IR Board,Speaker,Front Cover and Panel Unit.

3.1 Unscrew 7 screws to remove Shield Plate.



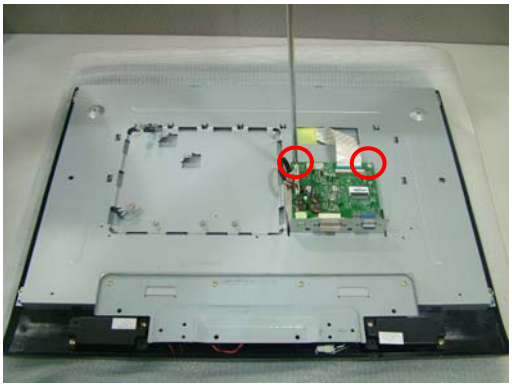
Shield Plate

3.2. Unscrew 6 screws and disconnect the wires to remove Power Board.



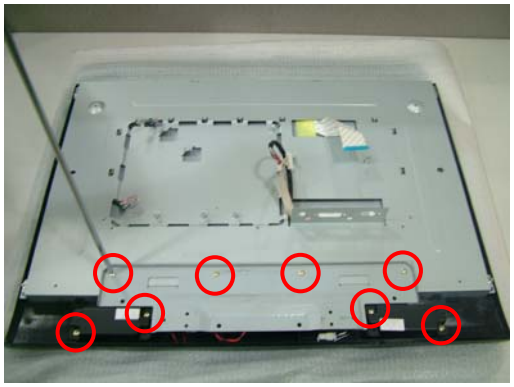
Power Board

3.3. Unscrew 2 screws and disconnect the wires to remove Main Board.



Main Board

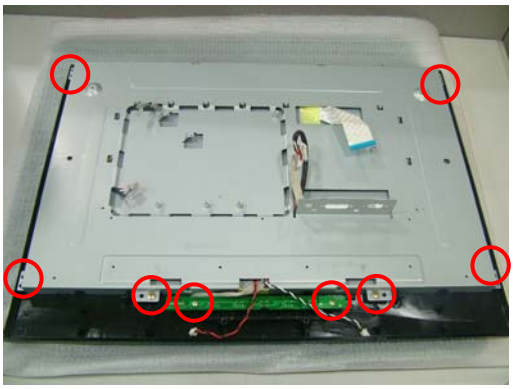
3.4. Unscrew 8 screws to remove Speaker and Bracket,Fix.



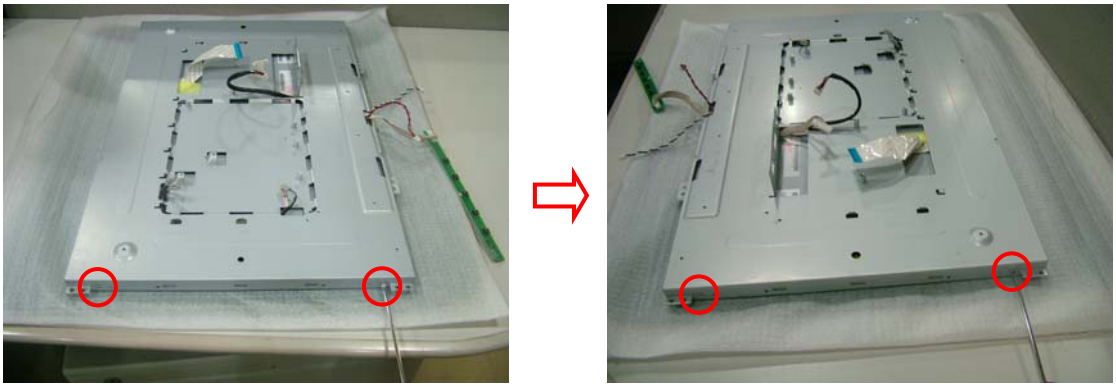
Bracket,Fix

Speaker

3.5. Unscrew 8 screws to remove Front Cover.



3.6. Lay Panel Unit facedown and unscrew 4 screws on its right and left sides, to remove Panel Unit and Panel Bracket.

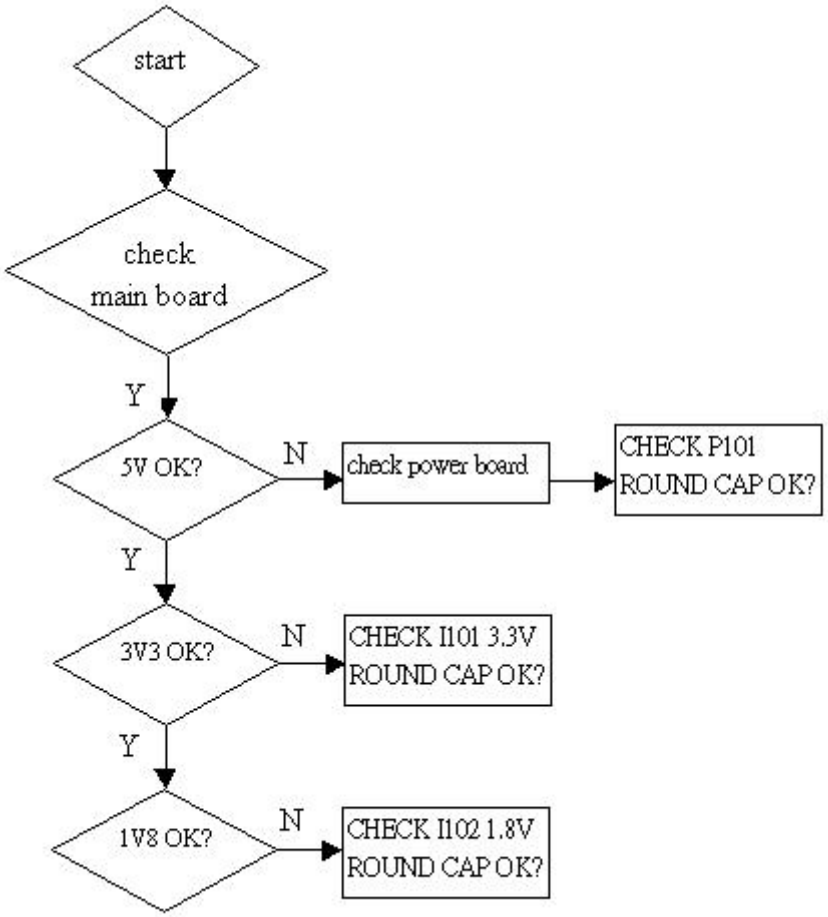


Panel Bracket

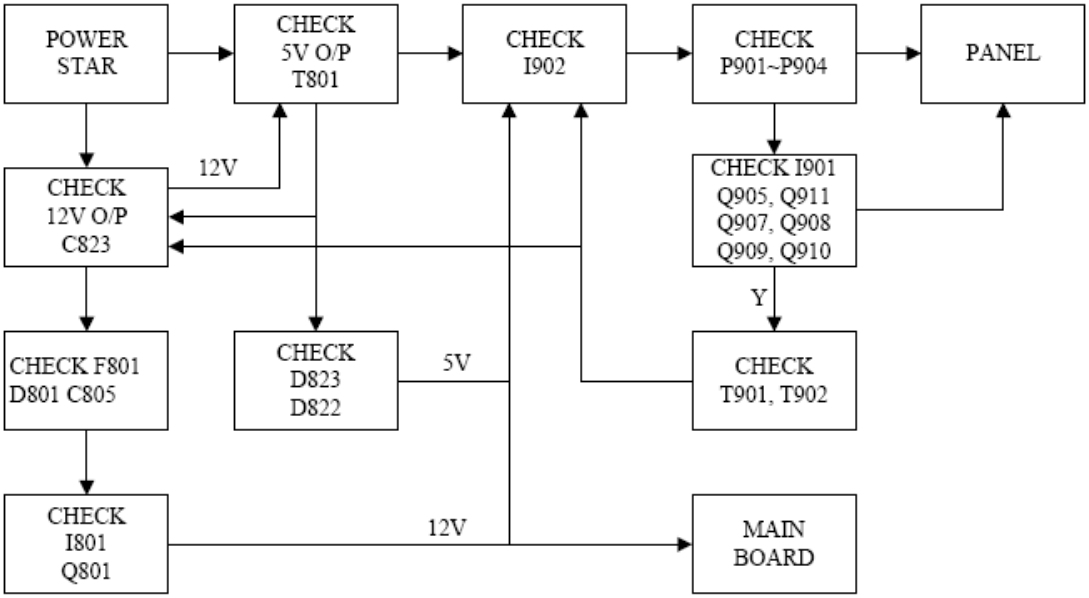
Key Board

Panel Unit

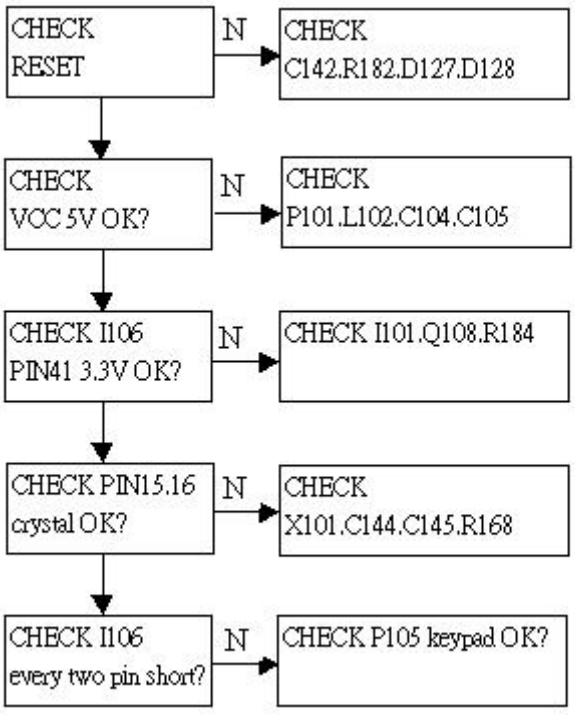
6. Troubleshooting Flow Chart



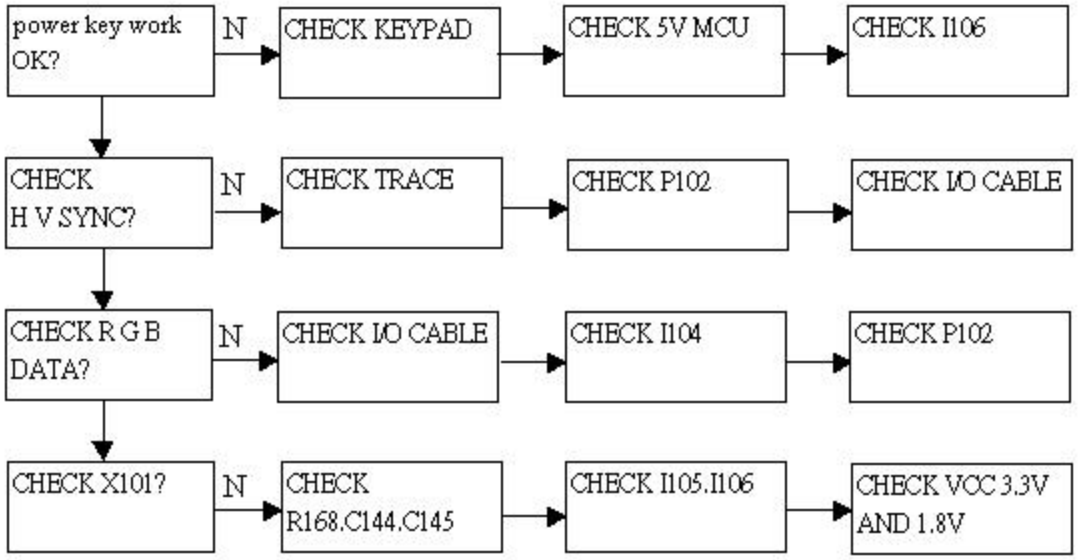
6.1. NO POWER



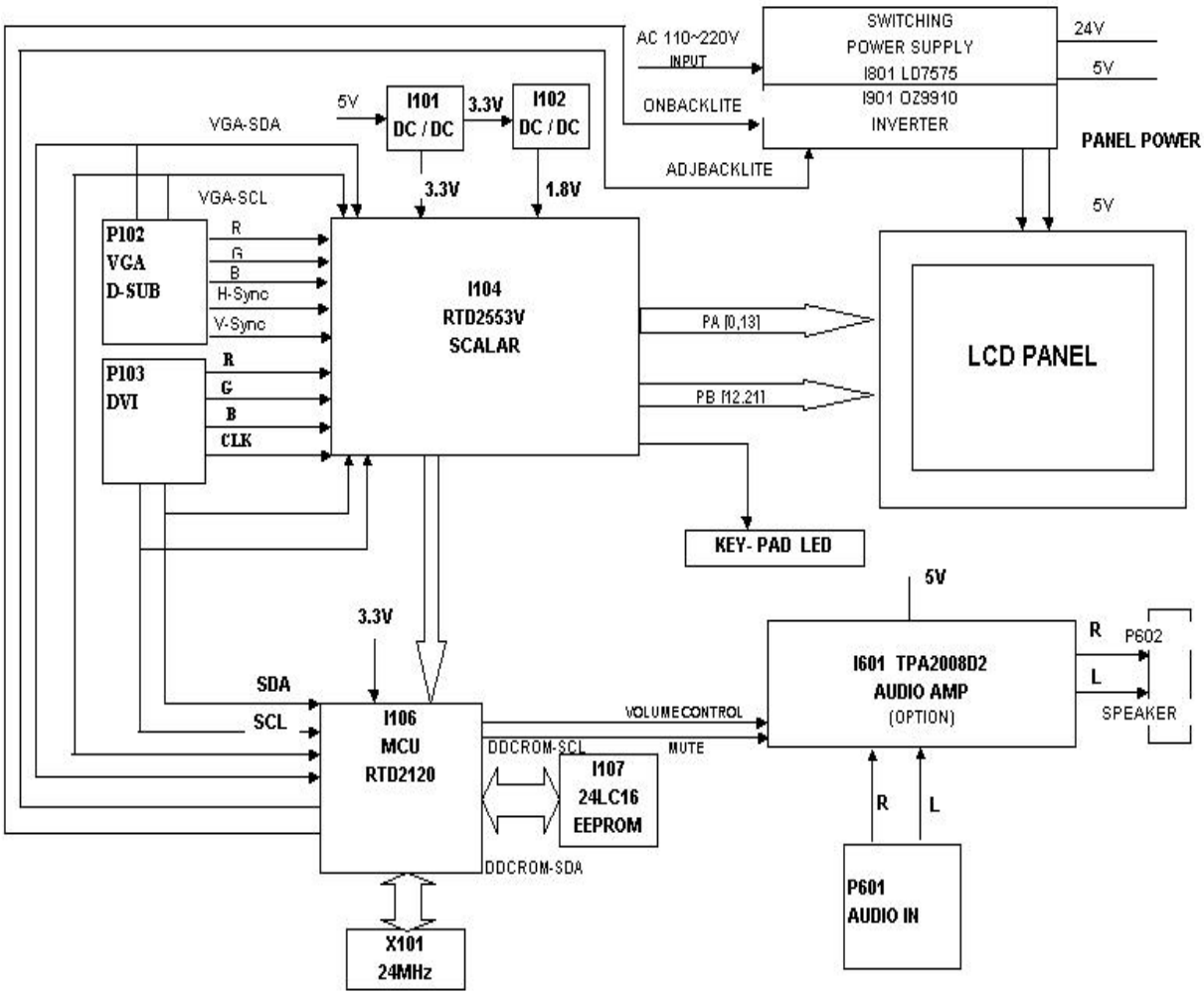
6.2. MCU NO FUNCTION



6.3. NO DISPLAY

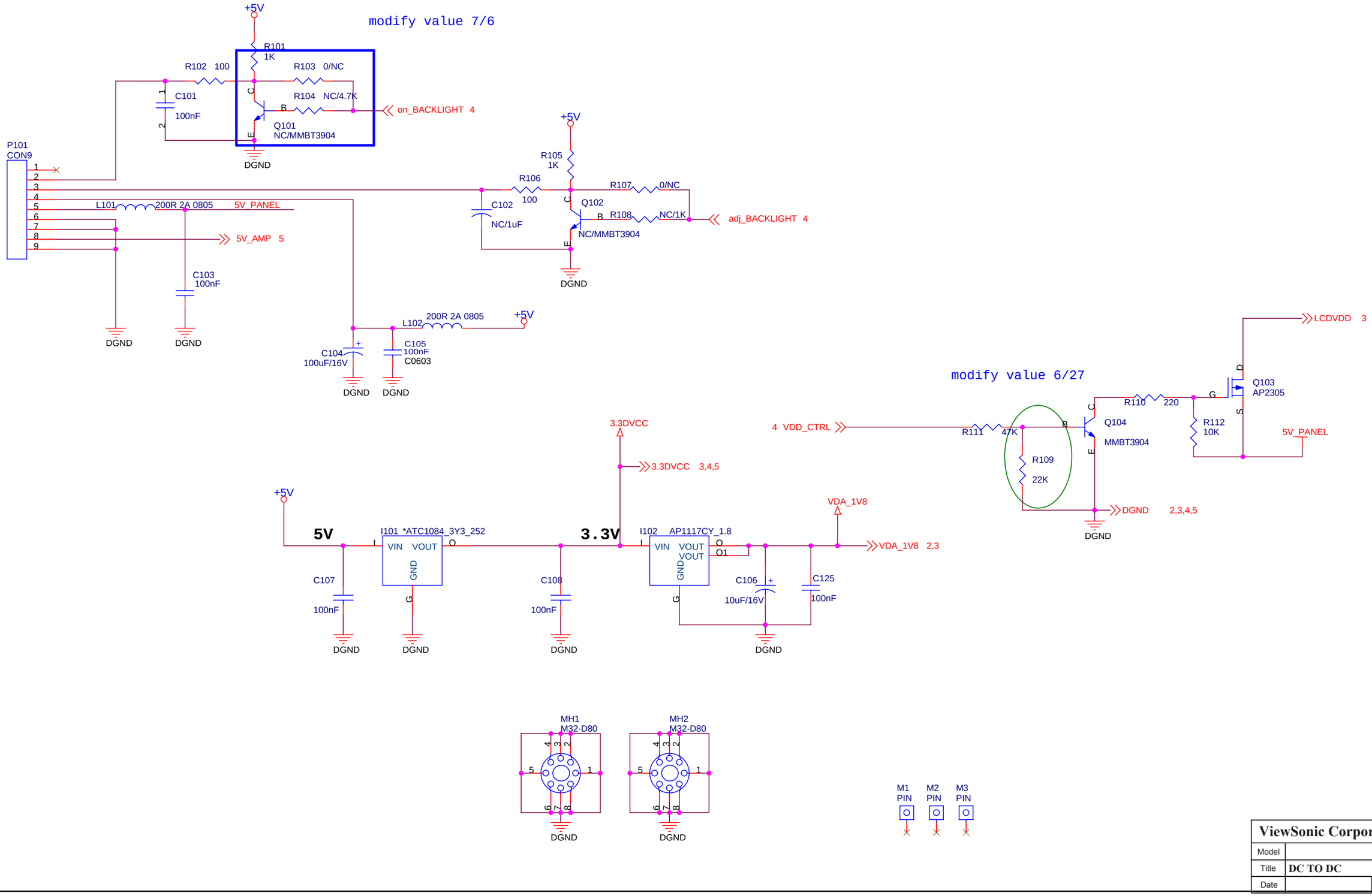


7. Block Diagram



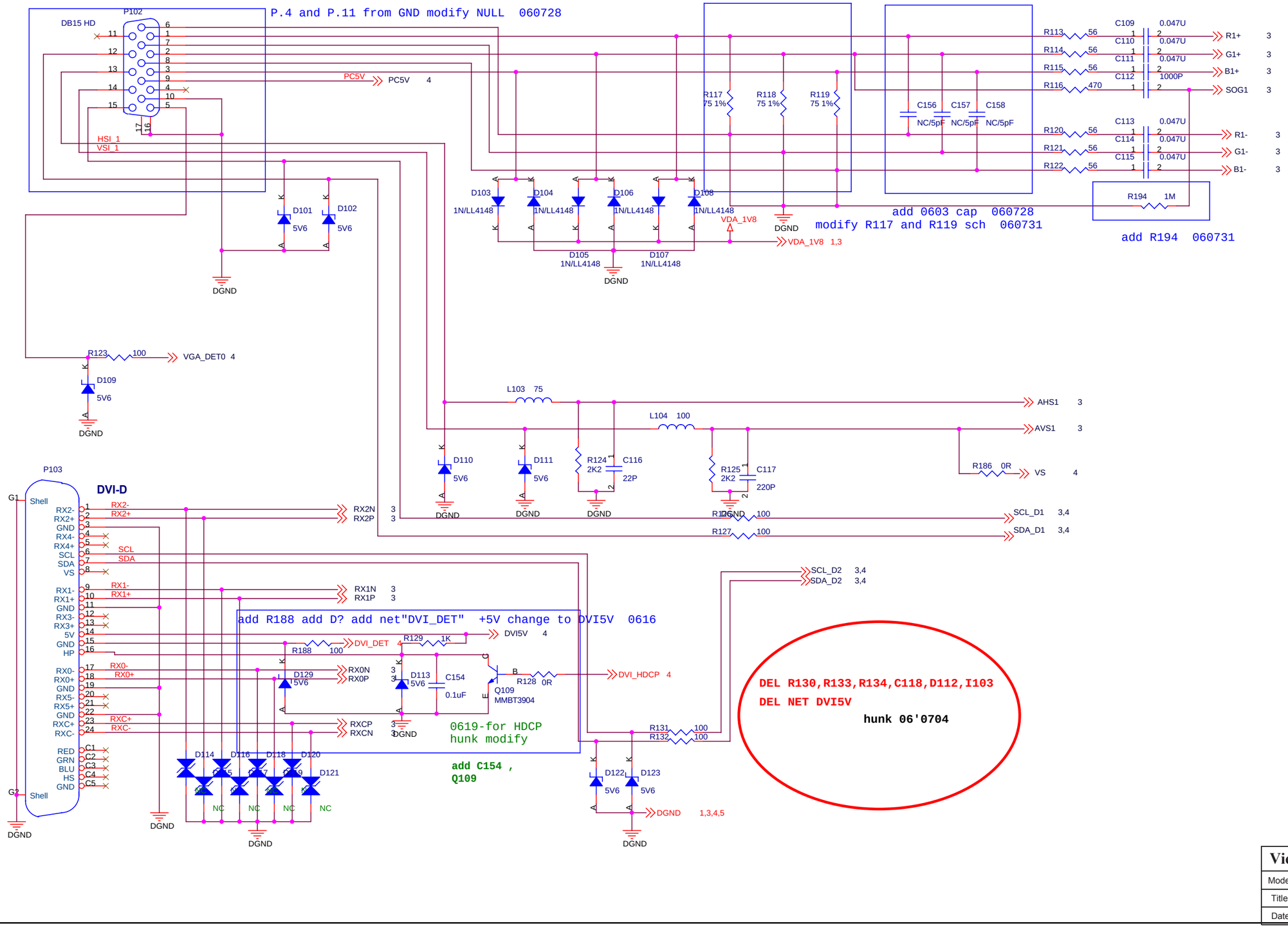
8. Schematic Diagrams

8.1. DC TO DC



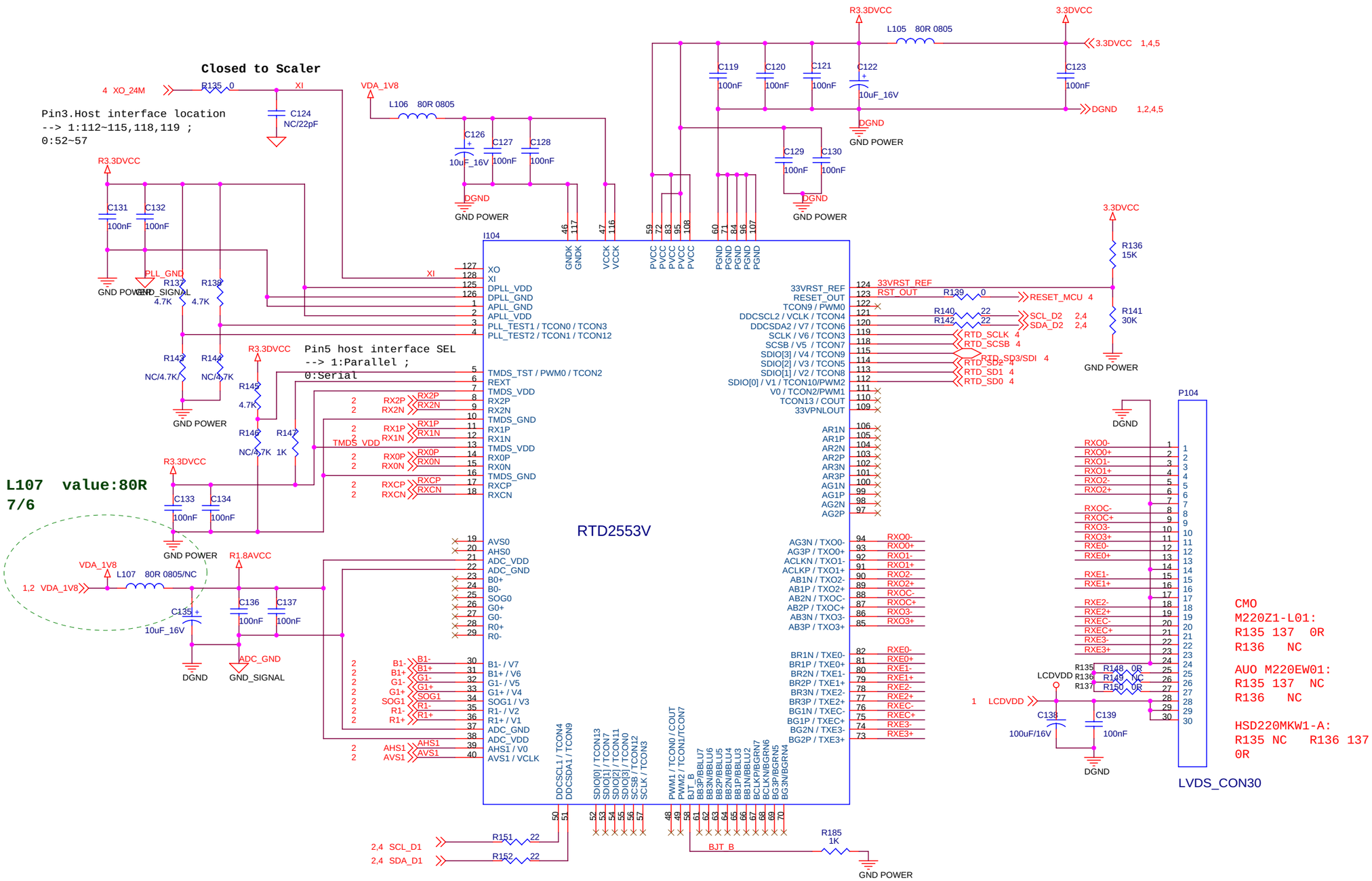
ViewSonic Corporation		
Model		
Title	DC TO DC	
Date		Rev:

8.2. INPUT



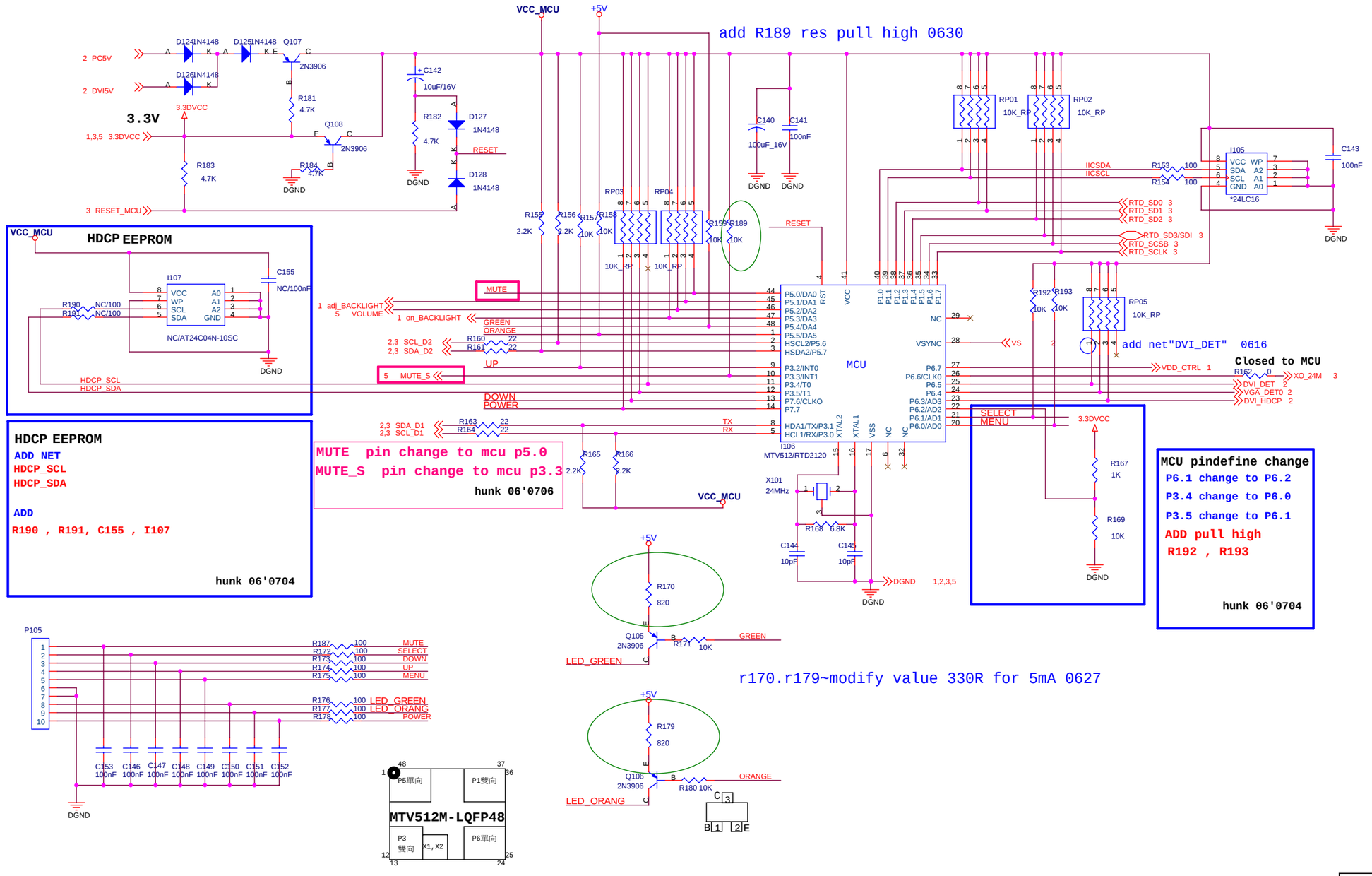
ViewSonic Corporation		
Model		
Title	INPUT	
Date		Rev:

8.3. SCALER

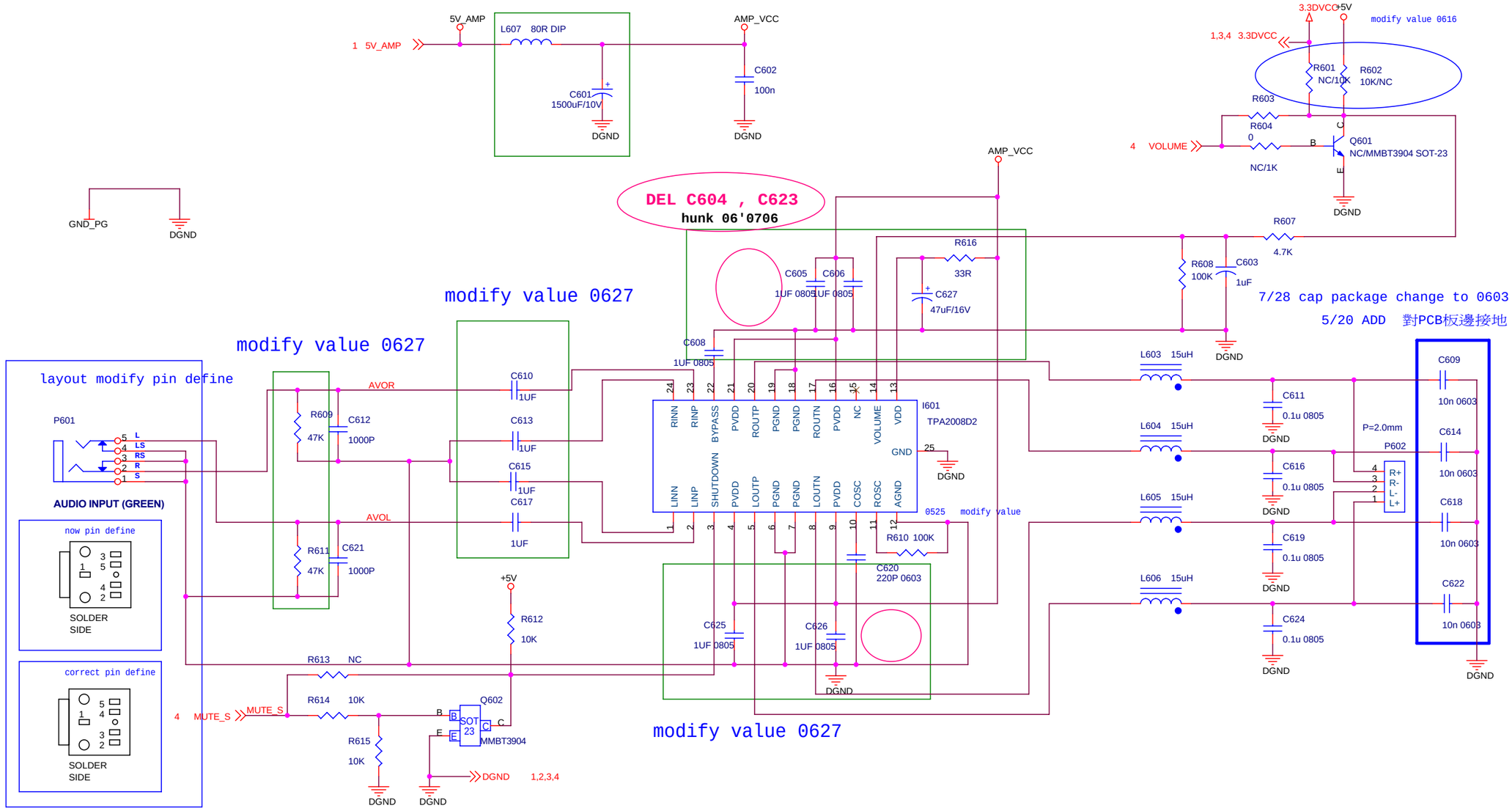


ViewSonic Corporation		
Model		
Title	SCALER	
Date		Rev:

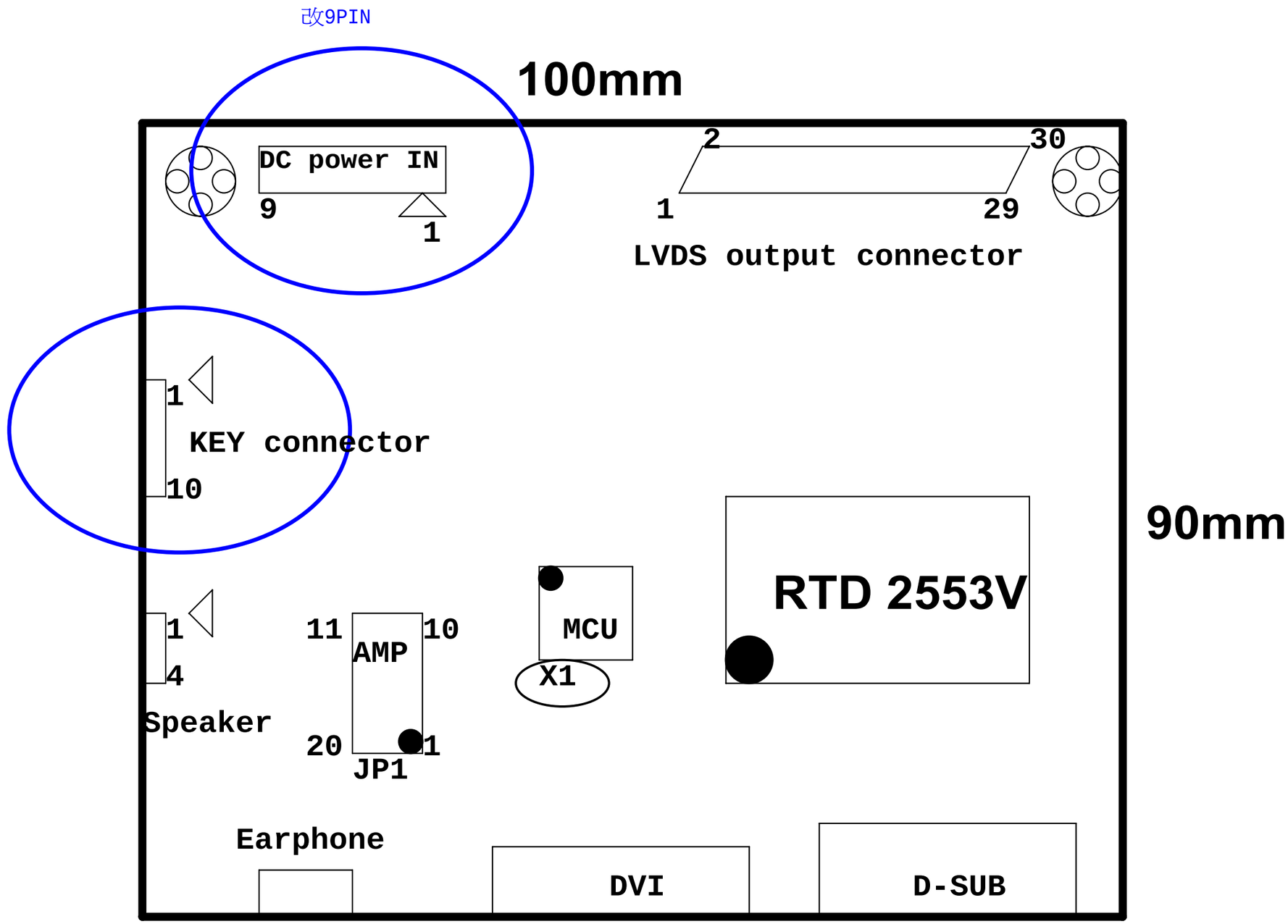
8.4. MCU



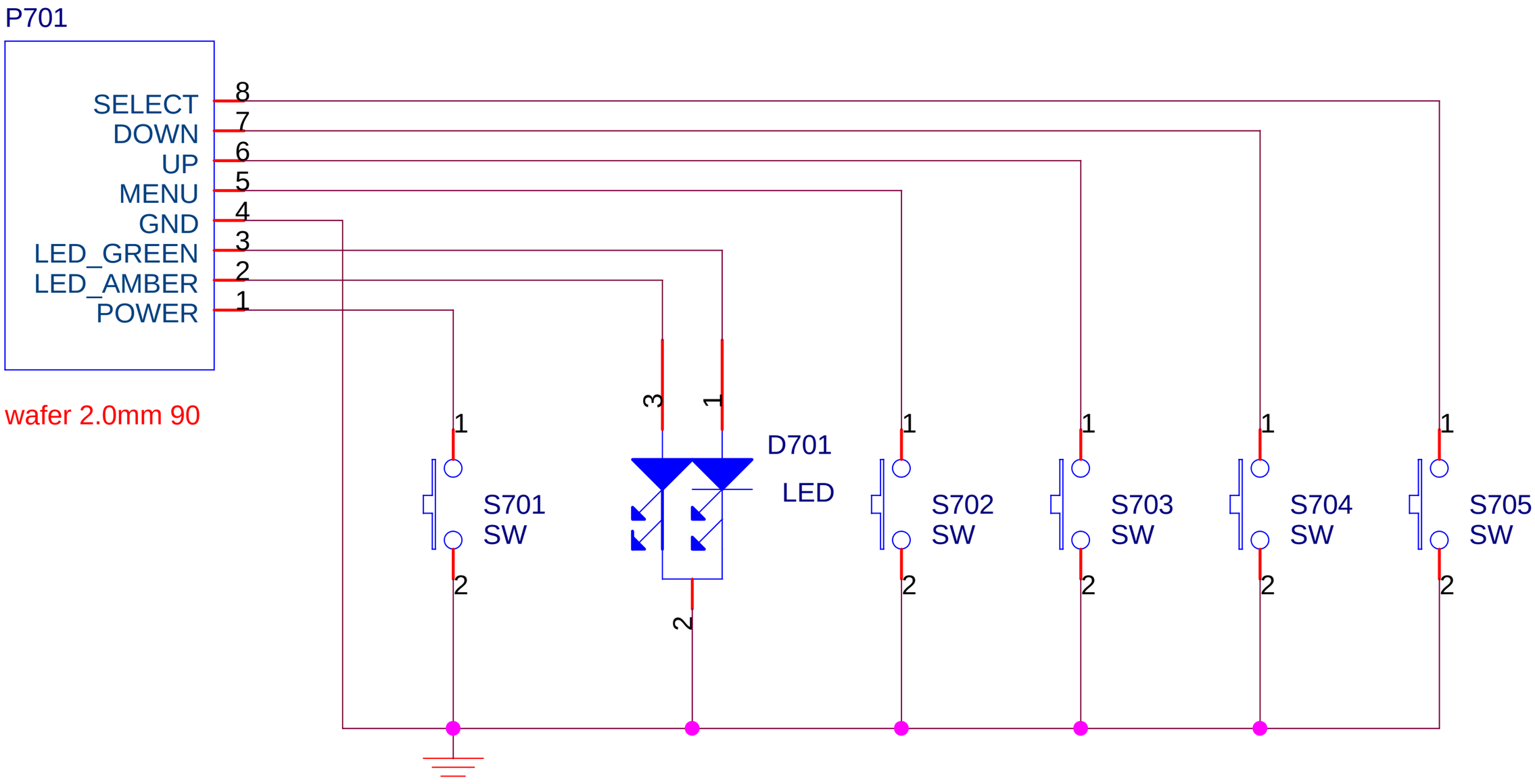
ViewSonic Corporation		
Model		
Title	MCU	
Date		Rev:



ViewSonic Corporation		
Model		
Title	AUDIO AMPLIFIER	
Date		Rev:

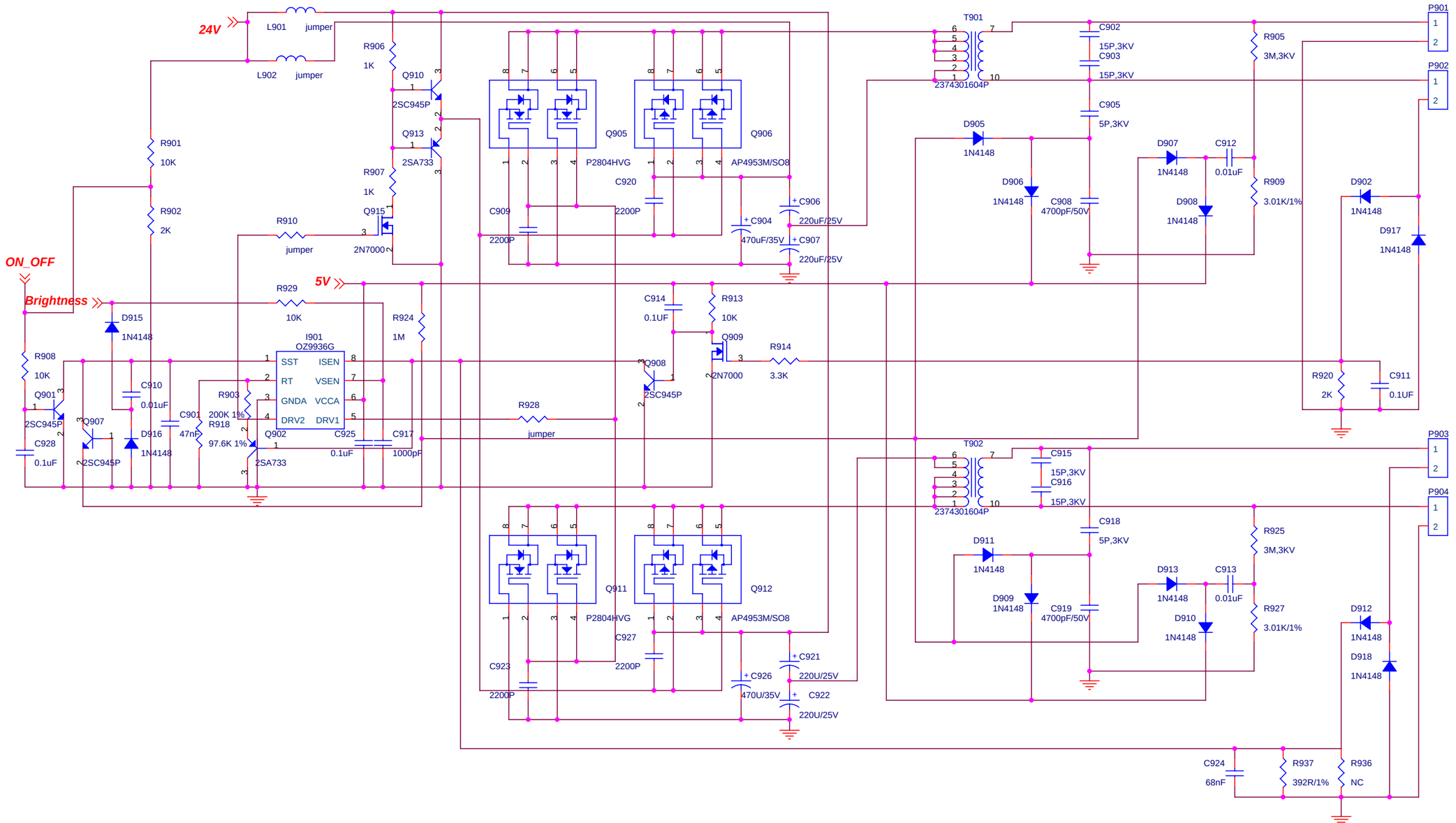


ViewSonic Corporation		
Model		
Title	PLACEMENT	
Date		Rev:



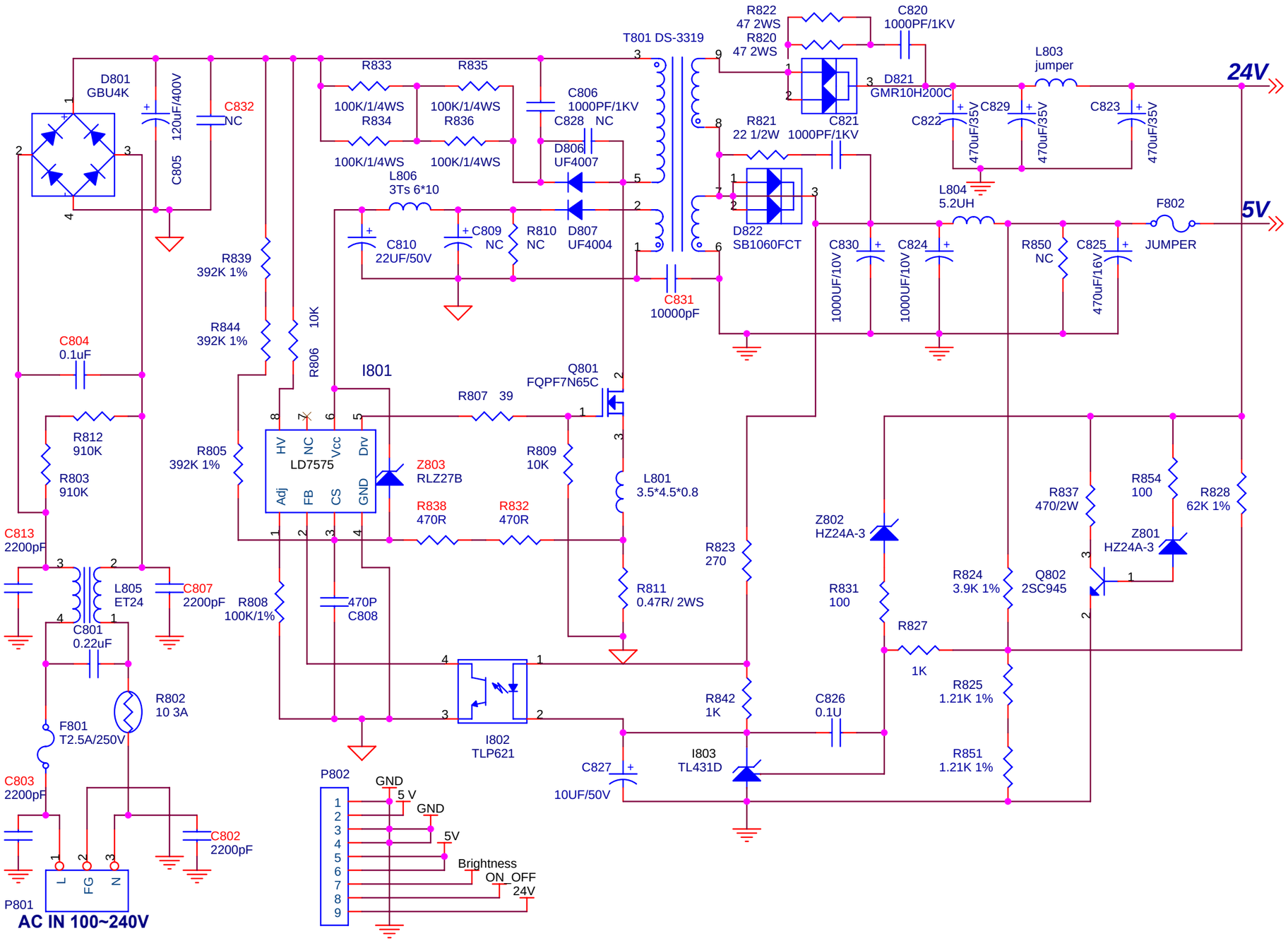
ViewSonic Corporation		
Model		
Title	KEY BOARD	
Date		Rev:

8.8. INVERTER



ViewSonic Corporation		
Model		
Title	INVERTER	
Date		Rev:

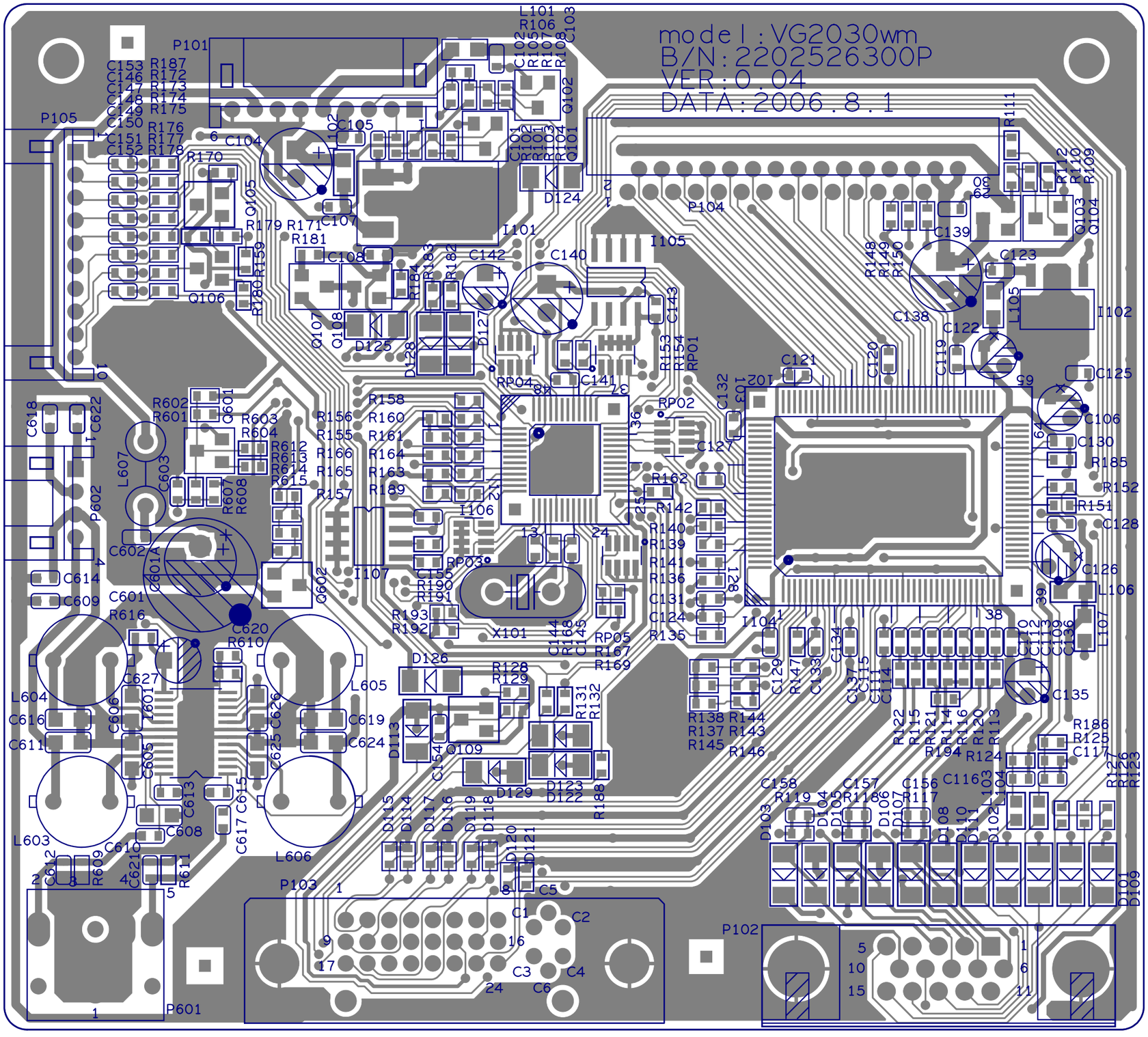
8.9. POWER



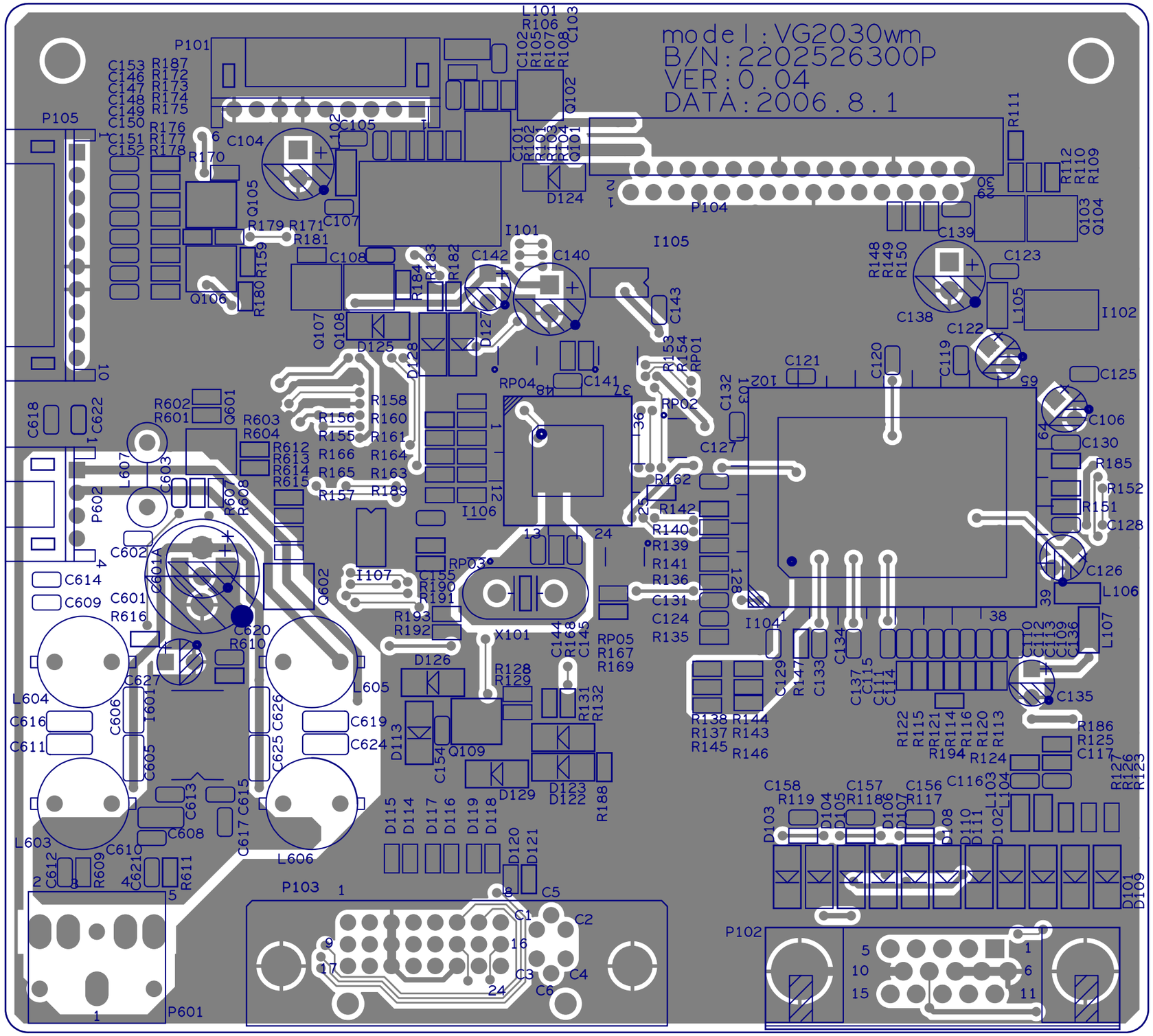
ViewSonic Corporation		
Model		
Title	POWER	
Date		Rev:

9. PCB Layout Diagrams

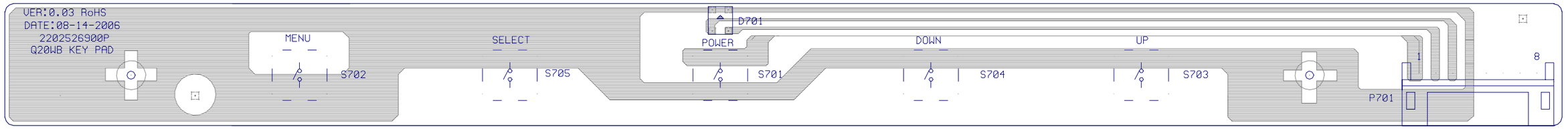
9.1. MAIN PCB TOP VIEW



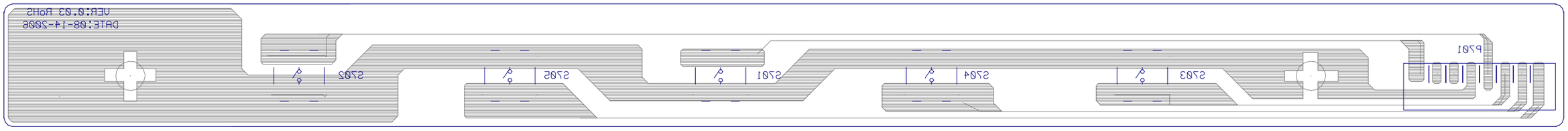
9.2. MAIN PCB BOTTOM VIEW



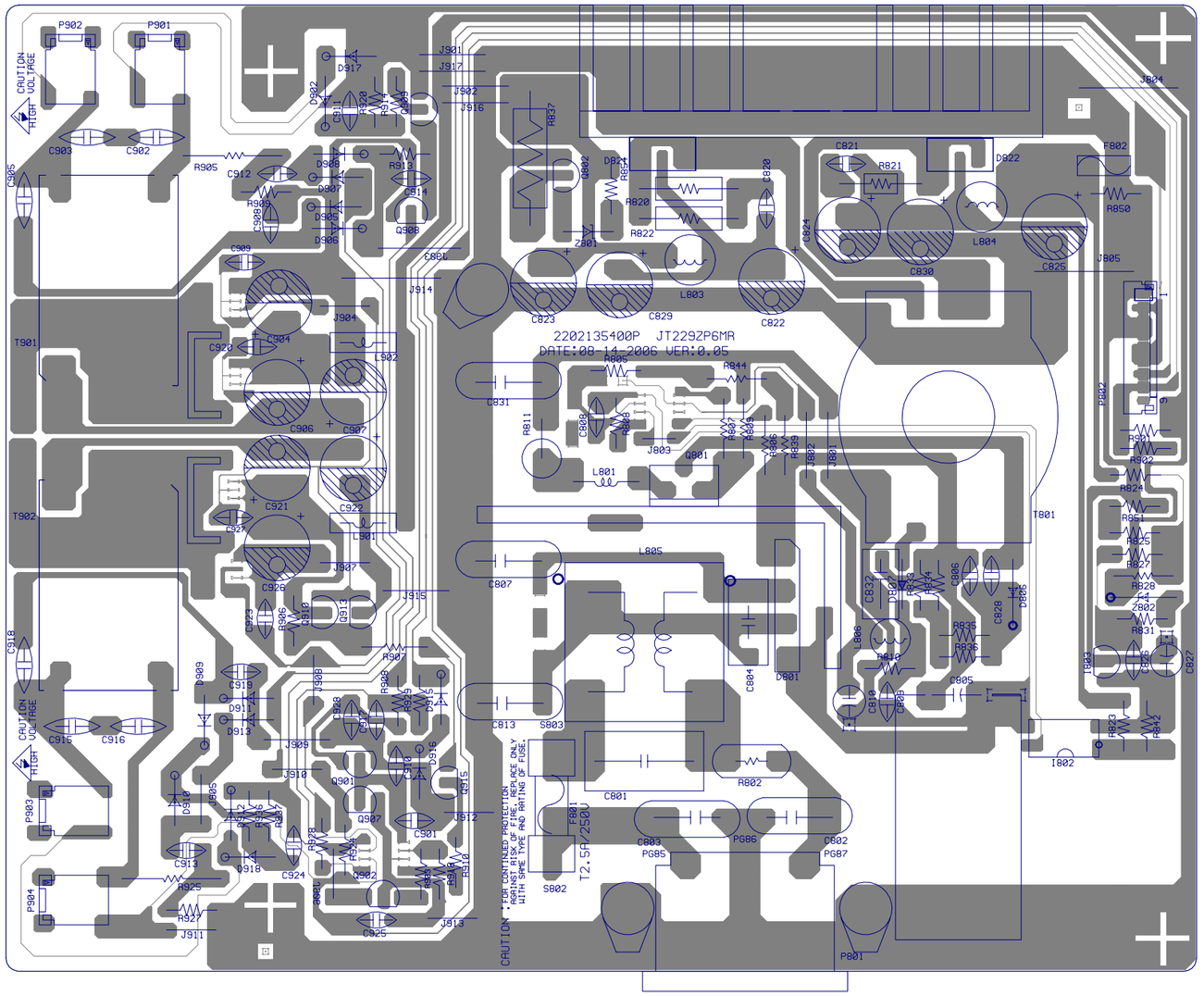
9.3. CON PCB TOP VIEW



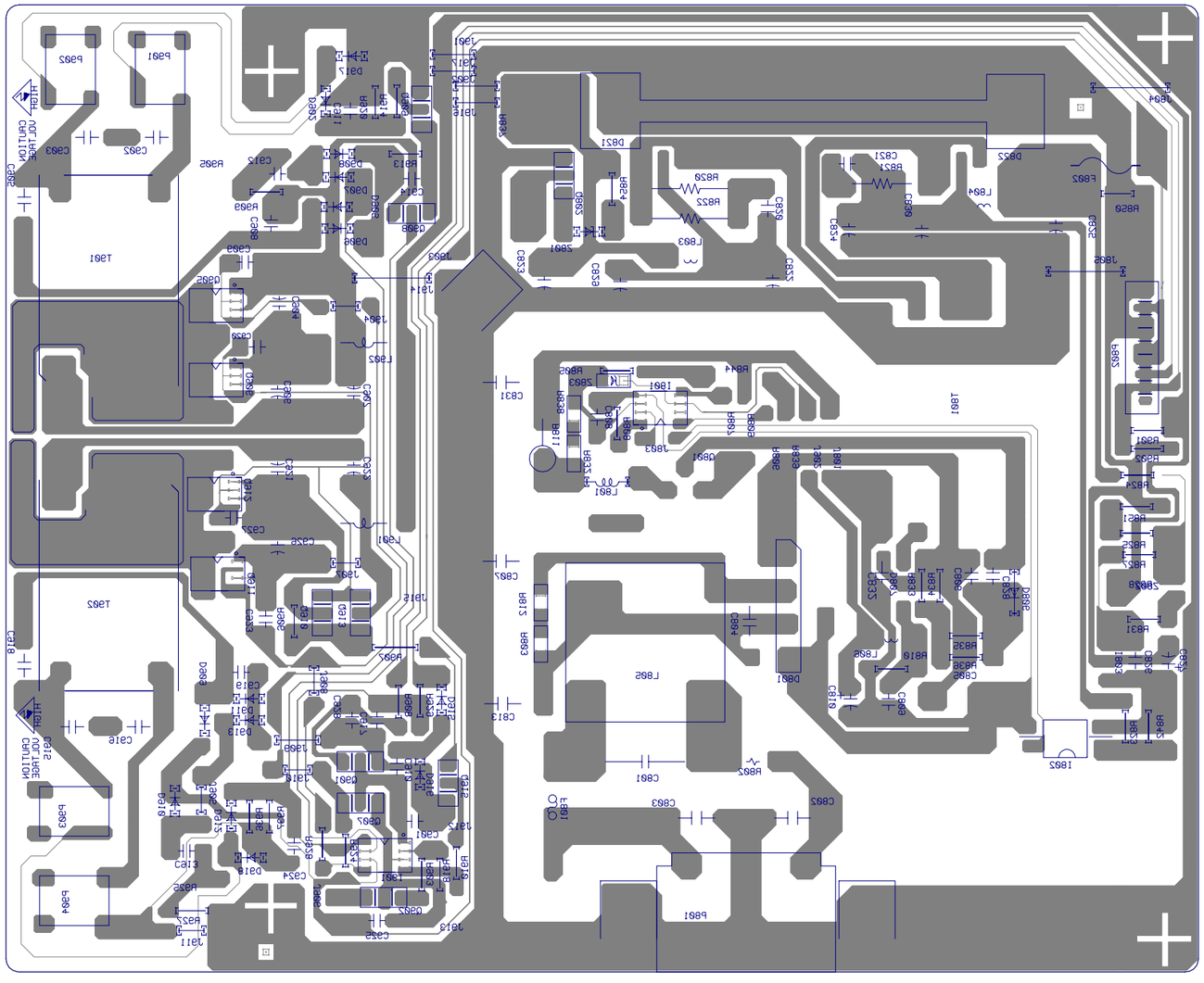
9.4. CON PCB BOTTOM VIEW



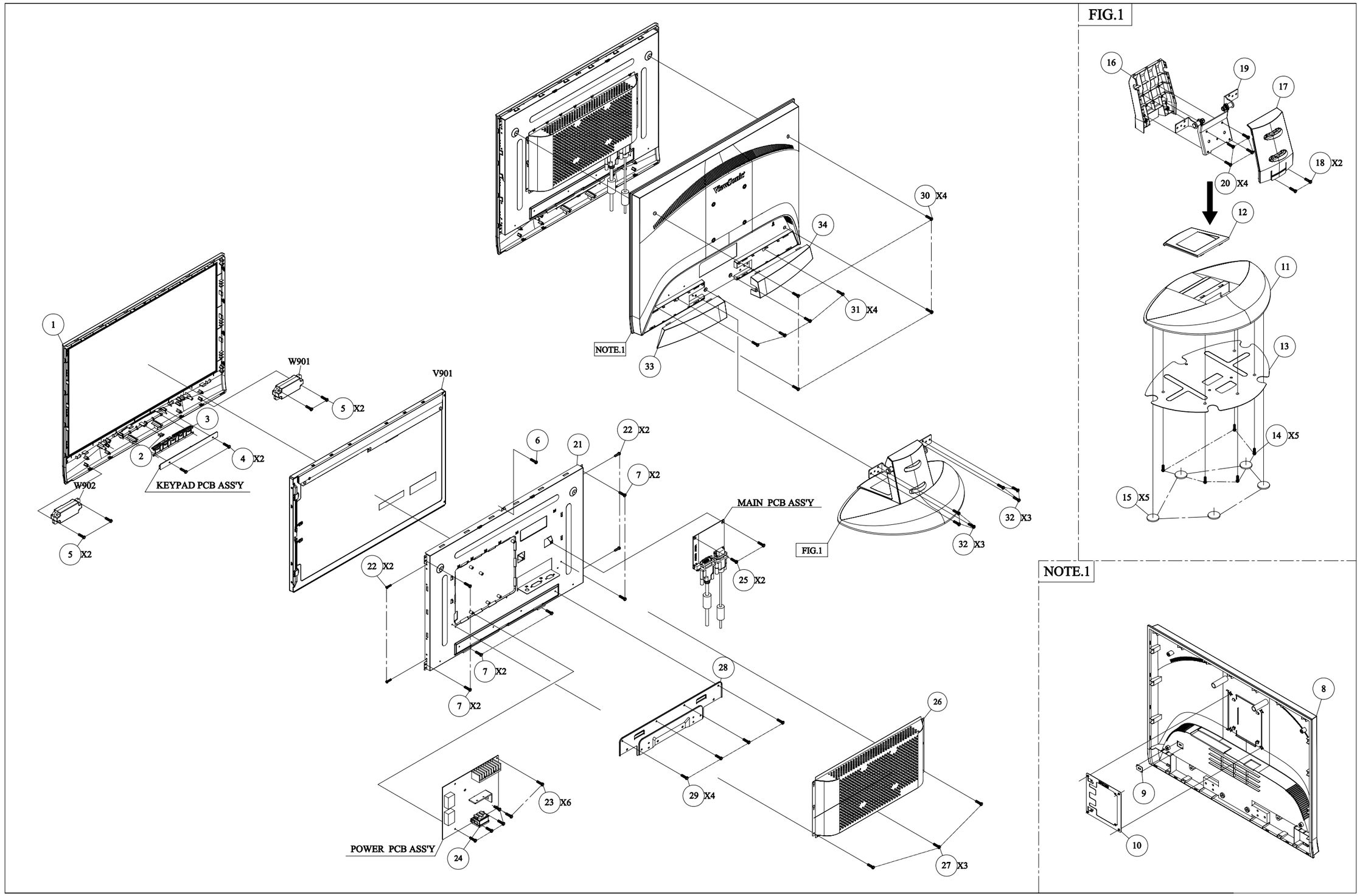
9.5. POWER PCB TOP VIEW

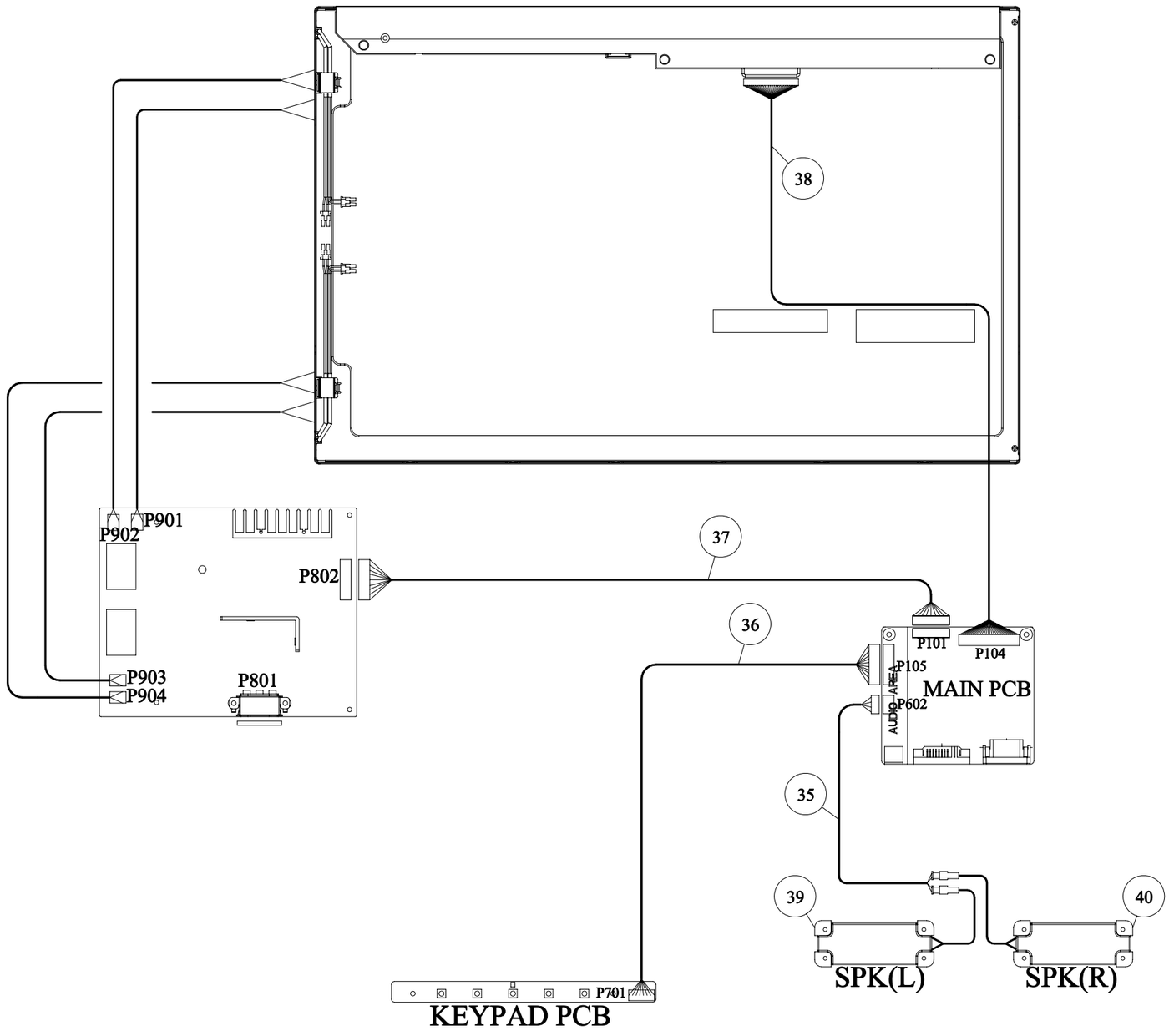


9.6. POWER PCB BOTTOM VIEW



10. Exploded Diagram and Exploded Parts List




38
P901
P902
P802
37
36
P903
P904
P801
P101
P104
P105
AUDIO AREA
P602
MAIN PCB
35
39
40
SPK(L)
SPK(R)
P701
KEYPAD PCB

EXPLODED PARTS LIST (VX2235wm-4)

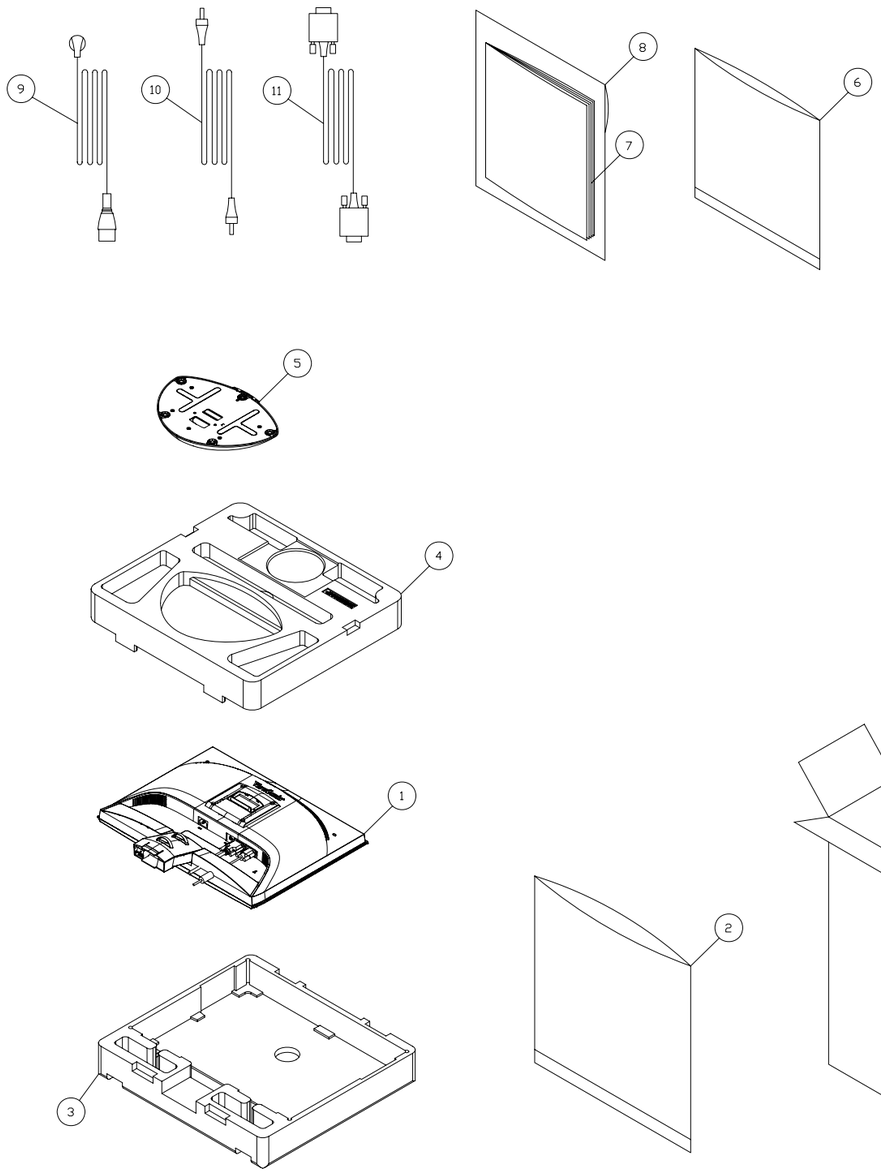
ViewSonic Model Number: VS11446

Rev: 1a

Serial No. Prefix: QJQ

Item	ViewSonic P/N	Ref. P/N	Description		Q'ty
1	N/A	2024275301P	FRONT BEZEL	VX2235/ABS 94HB BLACK C	1
2	N/A	2053756401P	LED INDIC.-PWR	VX2035/PMMA 94HB	1
3	N/A	2044270901P	FUNCTION KEY	VX2235 ABS 94HB BLACK C	1
4	M-SCW-0824-0285	2084730082P	SCREW,BND T+	M3X8(BND T+)	2
5	M-SCW-0824-0285	2084730082P	SCREW,BND T+	M3X8(BND T+)	4
6	M-SCW-0824-0285	2084730082P	SCREW,BND T+	M3X8(BND T+)	1
7	N/A	2084740082P	SCREW,BND T+	M4X8(BND T+)	6
8	N/A	2022272301P	CABI BACK	VX2235-4/ABSHB BLACK C+7604B	1
9	M-BK-0805-0070	2071869400P	BRACKET,FIX	METAL PLATE 1.0MM KENSINGTON	1
10	HW-00003031	2071872900P	BRACKET,FIX	JT198QP SECC 0.8T WALL MOUNT	1
11	PL-00008054	2028263001P	STAND	VX2035/ABS 94HB BLACK C	1
12	N/A	2027267502P	DUST COVER	VX2035 ABS 94HB PS-7604B	1
13	N/A	2071885000P	BRACKET,FIX	VX2035_BASE-METAL SECC T=1MM	1
14	N/A	2080008700P	SCREW,SPE	ITS M4*6 NI	5
15	PL-PD-0714-0113	2039819301P	FOOT PAD	RUBBER O20*2TMM SQUARE GRAIN	5
16	N/A	2028556202P	NECK	VX2035/ARM-F ABS 94HB PS-7604B	1
17	N/A	2028556302P	NECK	VX2035/ARM-B ABS 94HB PS-7604B	1
18	M-SCW-0824-0285	2084730082P	SCREW,BND T+	M3X8(BND T+)	2
19	N/A	2106662000P	HINGE(RA)	VX2235 -5~+20' 30/30KG-CM (TL)	1
20	N/A	2106662001P	HINGE(RB)	VX2235 -5~+20' 30/30KG-CM (HY)	1
21	N/A	2106662002P	HINGE(RC)	VX2235 -5~+20' 30/30KG-CM (ZJ)	1
22	M-SCW-0824-0123	2084740102P	SCREW,BND T+	M4X10(BND T+)	4
23	N/A	2071983400P	METAL FITTG	VX2235 SECC T=0.8MM	1
24	N/A	2080002200P	SCREW,SPE	L355 M3x6 DH NICKEL-PLATED	4
25	M-SCW-0824-0811	2080003700P	SCREW,SPE	ISZZTER001A M3*6L MSWR17/FZMYI	6
26	HW-00003028	2071874300P	BRACKET,FIX	SECC T=0.8 VE910 ACINLET	1
27	M-SCW-0824-0811	2080003700P	SCREW,SPE	ISZZTER001A M3*6L MSWR17/FZMYI	2
28	N/A	2071679800P	SHIELD PLATE	VX2235-4/ANALOG SPTE T=0.3MM	1
29	N/A	2082630062P	SCREW	M3X6 P=0.5	3
30	N/A	2071885100P	BRACKET,FIX	VX2235 HINGE FIX SECC T=1.0MM	1
31	N/A	2082630062P	SCREW	M3X6 P=0.5	4
32	M-SCW-0824-0123	2084740102P	SCREW,BND T+	M4X10(BND T+)	4
33	N/A	2082630064P	SCREW	M3*6 P=0.5 BLACK	4
34	N/A	2086240102P	SCREW,P SW+	M4*10 PSW+ ZN	6
35	N/A	2027267001P	DUST COVER	VX2235 ABS 94HB BLACK C (R)	1
36	N/A	2027267101P	DUST COVER	VX2235 ABS 94HB BLACK C (L)	1
37	N/A	2427404032P	WIRE HARNESS	2+2/4P H/A 1007#24 L=250mm	1
38	N/A	2427410008P	WIRE HARNESS	8/10P H/B 1007#26 L=300mm	1
39	N/A	2427409004P	WIRE HARNESS	9/9P H/B 1007#26 L=130mm	1
40	N/A	2420330181P	FFC CABLE	30P*P0.5*L157mm	1
41	E-00008181	2391302502P	SPEAKER ASS'Y	2.5W/4ohm(L) L80*W29*H20 D.L	1
42	E-00008180	2391302501P	SPEAKER ASS'Y	2.5W/4ohm(R) L80*W29*H20 D.L	1

Packing for Shipping



PACKING PART LIST (VX2235wm-4)

ViewSonic Model Number: VS11446

Rev: 1a

Item	ViewSonic P/N	Ref. P/N	Location	Q'ty
1			VX2235WM4 monitor	1
2	M-MS-0808-1317	2013053000P	POLYETHY BAG	1
3	P-00008192	2012195500P	VX2235 EPS (BOTTOM)	1
4	P-00008193	2012195600P	VX2235 EPS (TOP)	1
5			BASE ASS'Y	1
6	N/A	2013228806P	POLYETHY BAG	1
7	N/A	2438501257P	OWNER GUIDE	1
8	DC-00008216	2002310633P	GUARANT CARD(QSG)	1
9	A-00008023	2427130123P	AC POWER CORD	1
10	CB-00005735	2427721841P	EAR CABLE	1
11	CB-00005507	2427501195P	VGA CABLE	1
12	P-00008259	2011121504P	CARTON BOX	1
13	N/A	2055632243P	LABEL	1

11. Recommended Spare Parts List

RECOMMENDED SPARE PARTS LIST (VX2235wm-4)

ViewSonic Model Number: VS11446

Serial No. Prefix: QJQ **Rev: 1a**

Item	Description		ECR/ECN	ViewSonic P/N	Ref. P/N	Location	Universal number#
1	**Accessories:**	AC POWER CORD		A-00008023	2427130123P	P951	
2	**PC Board Assembly:**	Control Board		B-00008181	6202-7922904001		
3		Power Supply Board		B-00008182	6204-7922904001		
4		Main Board		B-00008250	6201-7922908001		
5	**Cabinets:**	Front Panel		C-00008198	2603308120		
6		Back Cover		C-00008259	2603407763		
7	**Cables:**	Video IO Cable D15/D15 20276(4.5) 1.83M BLACK		CB-00005507	2427501195P	P961	
8		DVI Cable		CB-00006182	2427501198P	P971	
9	**Documentation:**	Quick Start Guide		DC-00008216	2002310633P	6P81	
10	**Electronic Components:**	LCD Module 22" Wide TFT M220EW01 V.O AUO		E-00006218	2212011500P	V901	
11		Speaker Right		E-00008180	2391302501P	W902	
12		Speaker Left		E-00008181	2391302502P	W901	
13	**Miscellaneous:**	Polyethy Bag 90CMX75CMX0.02t		M-MS-0808-1317	2013053000P	6P60	
14	**Packing Material:**	Foam - Bottom		P-00008192	2012195500P	6P20	
15		Foam - Top		P-00008193	2012195600P	6P21	
16		CARTON BOX		P-00008259	2011121504P	6P01	
17	**Plastics:**	Pedestal		PL-00008054	2028263001P	5B01	

Remark 1: Above listed items are examples, supplier can expand the rows to add more necessary items.

Remark 2: All revised RSPLs with newly added items or any change made should be highlighted and correlated with the ECN/ECR approved by ViewSonic Corporation. This is to eliminate repeated cross checks of each item between this version and prior versions.

BOM LIST (VX2235wm-4)

ViewSonic Model Number: VS11446

Rev: 1a

Serial No. Prefix: QJQ

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
1	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C101		1
2	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C103		1
3	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C105		1
4	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C107		1
5	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C108		1
6	N/A	2346147396P	CAP,CHIP 125'C CS 0603/X7R/50V 0.047u K T	C109		1
7	N/A	2346147396P	CAP,CHIP 125'C CS 0603/X7R/50V 0.047u K T	C110		1
8	N/A	2346147396P	CAP,CHIP 125'C CS 0603/X7R/50V 0.047u K T	C111		1
9	N/A	2346110296P	CAP,CHIP 125'C CS 0603/X7R/50V 1000p K T	C112		1
10	N/A	2346147396P	CAP,CHIP 125'C CS 0603/X7R/50V 0.047u K T	C113		1
11	N/A	2346147396P	CAP,CHIP 125'C CS 0603/X7R/50V 0.047u K T	C114		1
12	N/A	2346147396P	CAP,CHIP 125'C CS 0603/X7R/50V 0.047u K T	C115		1
13	E-C-0404-4423	2341122096P	CAP,CHIP 125'C CS 0603/COG/50V 22p J T	C116		1
15	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C119		1
16	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C120		1
17	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C121		1
18	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C123		1
19	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C125		1
20	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C127		1
21	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C128		1
22	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C129		1
23	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C130		1
24	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C131		1
25	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C132		1
26	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C133		1
27	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C134		1
28	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C136		1
29	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C137		1
30	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C139		1
31	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C141		1
32	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C143		1
33	E-C-0404-3898	2341110096P	CAP,CHIP 125'C CS 0603/COG/50V 10 p J T	C144		1
34	E-C-0404-3898	2341110096P	CAP,CHIP 125'C CS 0603/COG/50V 10 p J T	C145		1
35	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C146		1
36	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C147		1
37	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C148		1
38	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C149		1
39	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C150		1
40	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C151		1
41	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C152		1
42	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C153		1
43	E-C-0404-3815	2346410496P	CAP,CHIP 85'C CS 0603/Y5V/50V 0.1u Z T	C602		1
44	N/A	2346710596P	CAP,CHIP 85'C CS 0603/Y5V/16V 1.0u Z T	C603		1
45	N/A	2347110596P	CAP,CHIP 125'C CS 0805/X7R/50V 1.0u K T	C605 RA		1
46	N/A	2347210596P	CAP,CHIP 125'C CS 0805/X7R/25V 1.0u K T	C605 RB		1
47	N/A	2347110596P	CAP,CHIP 125'C CS 0805/X7R/50V 1.0u K T	C606 RA		1
48	N/A	2347210596P	CAP,CHIP 125'C CS 0805/X7R/25V 1.0u K T	C606 RB		1
49	N/A	2347110596P	CAP,CHIP 125'C CS 0805/X7R/50V 1.0u K T	C608 RA		1
50	N/A	2347210596P	CAP,CHIP 125'C CS 0805/X7R/25V 1.0u K T	C608 RB		1
51	N/A	2346110396P	CAP,CHIP 125'C CS 0603/X7R/50V 0.01u K T	C609		1
52	N/A	2346710596P	CAP,CHIP 85'C CS 0603/Y5V/16V 1.0u Z T	C610		1
53	N/A	2347110496P	CAP,CHIP 125'C CS 0805/X7R/50V 0.1u K T	C611		1
54	N/A	2346110296P	CAP,CHIP 125'C CS 0603/X7R/50V 1000p K T	C612		1
55	N/A	2346710596P	CAP,CHIP 85'C CS 0603/Y5V/16V 1.0u Z T	C613		1
56	N/A	2346110396P	CAP,CHIP 125'C CS 0603/X7R/50V 0.01u K T	C614		1
57	N/A	2346710596P	CAP,CHIP 85'C CS 0603/Y5V/16V 1.0u Z T	C615		1
58	N/A	2347110496P	CAP,CHIP 125'C CS 0805/X7R/50V 0.1u K T	C616		1
59	N/A	2346710596P	CAP,CHIP 85'C CS 0603/Y5V/16V 1.0u Z T	C617		1
60	N/A	2346110396P	CAP,CHIP 125'C CS 0603/X7R/50V 0.01u K T	C618		1
61	N/A	2347110496P	CAP,CHIP 125'C CS 0805/X7R/50V 0.1u K T	C619		1
62	N/A	2341122196P	CAP,CHIP 125'C CS 0603/COG/50V 220p J T	C620		1
63	N/A	2346110296P	CAP,CHIP 125'C CS 0603/X7R/50V 1000p K T	C621		1
64	N/A	2346110396P	CAP,CHIP 125'C CS 0603/X7R/50V 0.01u K T	C622		1
65	N/A	2347110496P	CAP,CHIP 125'C CS 0805/X7R/50V 0.1u K T	C624		1
66	N/A	2347110596P	CAP,CHIP 125'C CS 0805/X7R/50V 1.0u K T	C625 RA		1
67	N/A	2347210596P	CAP,CHIP 125'C CS 0805/X7R/25V 1.0u K T	C625 RB		1
68	N/A	2347110596P	CAP,CHIP 125'C CS 0805/X7R/50V 1.0u K T	C626 RA		1
69	N/A	2347210596P	CAP,CHIP 125'C CS 0805/X7R/25V 1.0u K T	C626 RB		1
70	E-D-0403-1779	2364503996P	DIODE,ZENER SMD BZV55-C5V6 5% SOD-80C PHILIPS	D101 RA		1
71	E-D-0403-2808	2364505616P	DIODE,ZENER SMD TZMC5V6 SOD-80 5.2-6.0V VISHAY	D101 RB		1
72	N/A	2364500396P	DIODE,ZENER SMD RLZ5.6B 5.45-5.73V LL-34 ROHM	D101 RC		1
73	E-D-0403-1779	2364503996P	DIODE,ZENER SMD BZV55-C5V6 5% SOD-80C PHILIPS	D102 RA		1
74	E-D-0403-2808	2364505616P	DIODE,ZENER SMD TZMC5V6 SOD-80 5.2-6.0V VISHAY	D102 RB		1
75	N/A	2364500396P	DIODE,ZENER SMD RLZ5.6B 5.45-5.73V LL-34 ROHM	D102 RC		1
76	N/A	2364600496P	DIODE,SWITCH SMD MM4148 SOD80C GRANDE	D103 RA		1
77	E-00003534	2363600696P	DIODE,SWITCH RLS4148-T11 SOD80C ROHM	D103 RB		1
78	E-D-0403-1892	2364200896P	DIODE,RECT(SMD) BAS32L SOD80C PHILIPS	D103 RC		1
79	E-00003830	2364601396P	DIODE,SWITCH SMD 1N4148W-7-F SOD-123 DIODES	D103 RD		1

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
80	N/A	2364600496P	DIODE,SWITCH SMD MM4148 SOD80C GRANDE	D104 RA		1
81	E-00003534	2363600696P	DIODE,SWITCH RLS4148-T11 SOD80C ROHM	D104 RB		1
82	E-D-0403-1892	2364200896P	DIODE,RECT(SMD) BAS32L SOD80C PHILIPS	D104 RC		1
83	E-00003830	2364601396P	DIODE,SWITCH SMD 1N4148W-7-F SOD-123 DIODES	D104 RD		1
84	N/A	2364600496P	DIODE,SWITCH SMD MM4148 SOD80C GRANDE	D105 RA		1
85	E-00003534	2363600696P	DIODE,SWITCH RLS4148-T11 SOD80C ROHM	D105 RB		1
86	E-D-0403-1892	2364200896P	DIODE,RECT(SMD) BAS32L SOD80C PHILIPS	D105 RC		1
87	E-00003830	2364601396P	DIODE,SWITCH SMD 1N4148W-7-F SOD-123 DIODES	D105 RD		1
88	N/A	2364600496P	DIODE,SWITCH SMD MM4148 SOD80C GRANDE	D106 RA		1
89	E-00003534	2363600696P	DIODE,SWITCH RLS4148-T11 SOD80C ROHM	D106 RB		1
90	E-D-0403-1892	2364200896P	DIODE,RECT(SMD) BAS32L SOD80C PHILIPS	D106 RC		1
91	E-00003830	2364601396P	DIODE,SWITCH SMD 1N4148W-7-F SOD-123 DIODES	D106 RD		1
92	N/A	2364600496P	DIODE,SWITCH SMD MM4148 SOD80C GRANDE	D107 RA		1
93	E-00003534	2363600696P	DIODE,SWITCH RLS4148-T11 SOD80C ROHM	D107 RB		1
94	E-D-0403-1892	2364200896P	DIODE,RECT(SMD) BAS32L SOD80C PHILIPS	D107 RC		1
95	E-00003830	2364601396P	DIODE,SWITCH SMD 1N4148W-7-F SOD-123 DIODES	D107 RD		1
96	N/A	2364600496P	DIODE,SWITCH SMD MM4148 SOD80C GRANDE	D108 RA		1
97	E-00003534	2363600696P	DIODE,SWITCH RLS4148-T11 SOD80C ROHM	D108 RB		1
98	E-D-0403-1892	2364200896P	DIODE,RECT(SMD) BAS32L SOD80C PHILIPS	D108 RC		1
99	E-00003830	2364601396P	DIODE,SWITCH SMD 1N4148W-7-F SOD-123 DIODES	D108 RD		1
100	E-D-0403-1779	2364503996P	DIODE,ZENER SMD BZV55-C5V6 5% SOD-80C PHILIPS	D109 RA		1
101	E-D-0403-2808	2364505616P	DIODE,ZENER SMD TZMC5V6 SOD-80 5.2-6.0V VISHAY	D109 RB		1
102	N/A	2364500396P	DIODE,ZENER SMD RLZ5.6B 5.45-5.73V LL-34 ROHM	D109 RC		1
103	E-D-0403-1779	2364503996P	DIODE,ZENER SMD BZV55-C5V6 5% SOD-80C PHILIPS	D110 RA		1
104	E-D-0403-2808	2364505616P	DIODE,ZENER SMD TZMC5V6 SOD-80 5.2-6.0V VISHAY	D110 RB		1
105	N/A	2364500396P	DIODE,ZENER SMD RLZ5.6B 5.45-5.73V LL-34 ROHM	D110 RC		1
106	E-D-0403-1779	2364503996P	DIODE,ZENER SMD BZV55-C5V6 5% SOD-80C PHILIPS	D111 RA		1
107	E-D-0403-2808	2364505616P	DIODE,ZENER SMD TZMC5V6 SOD-80 5.2-6.0V VISHAY	D111 RB		1
108	N/A	2364500396P	DIODE,ZENER SMD RLZ5.6B 5.45-5.73V LL-34 ROHM	D111 RC		1
109	N/A	2364600496P	DIODE,SWITCH SMD MM4148 SOD80C GRANDE	D124 RA		1
110	E-00003534	2363600696P	DIODE,SWITCH RLS4148-T11 SOD80C ROHM	D124 RB		1
111	E-D-0403-1892	2364200896P	DIODE,RECT(SMD) BAS32L SOD80C PHILIPS	D124 RC		1
112	E-00003830	2364601396P	DIODE,SWITCH SMD 1N4148W-7-F SOD-123 DIODES	D124 RD		1
113	N/A	2364600496P	DIODE,SWITCH SMD MM4148 SOD80C GRANDE	D125 RA		1
114	E-00003534	2363600696P	DIODE,SWITCH RLS4148-T11 SOD80C ROHM	D125 RB		1
115	E-D-0403-1892	2364200896P	DIODE,RECT(SMD) BAS32L SOD80C PHILIPS	D125 RC		1
116	E-00003830	2364601396P	DIODE,SWITCH SMD 1N4148W-7-F SOD-123 DIODES	D125 RD		1
117	N/A	2364600496P	DIODE,SWITCH SMD MM4148 SOD80C GRANDE	D127 RA		1
118	E-00003534	2363600696P	DIODE,SWITCH RLS4148-T11 SOD80C ROHM	D127 RB		1
119	E-D-0403-1892	2364200896P	DIODE,RECT(SMD) BAS32L SOD80C PHILIPS	D127 RC		1
120	E-00003830	2364601396P	DIODE,SWITCH SMD 1N4148W-7-F SOD-123 DIODES	D127 RD		1
121	N/A	2364600496P	DIODE,SWITCH SMD MM4148 SOD80C GRANDE	D128 RA		1
122	E-00003534	2363600696P	DIODE,SWITCH RLS4148-T11 SOD80C ROHM	D128 RB		1
123	E-D-0403-1892	2364200896P	DIODE,RECT(SMD) BAS32L SOD80C PHILIPS	D128 RC		1
124	E-00003830	2364601396P	DIODE,SWITCH SMD 1N4148W-7-F SOD-123 DIODES	D128 RD		1
125	N/A	2365807196P	IC,LINEAR(SMD) AMC1117-3.3 SOT-223 ADD	I101 RA		1
126	N/A	2365809496P	IC,LINEAR(SMD) CM1117SCM-3.3V SOT223 CHAMPION	I101 RB		1
127	E-IC-0401-2924	2365808196P	IC,LINEAR(SMD) AP1117E33LA SOT-223 AnaChip	I101 RC		1
128	N/A	2365808396P	IC,LINEAR(SMD) AIC1117-33PY SOT-223 AIC	I101 RD		1
129	N/A	2365813696P	IC,LINEAR(SMD) AP1117E18LA SOT-223 AnaChip	I102 RA		1
130	N/A	2365335086P	LINEAR IC AIC1117A-18PY SOT223 AIC	I102 RB		1
131	N/A	2365335076P	LINEAR IC CM1117GDCM223 SOT223 CHAMPION	I102 RC		1
132	N/A	2365425716P	DIGITAL IC RTD2553V-LF PQFP-128 REALTEK	I104		1
133	N/A	2365915896P	IC,DIGITAL SMD 24LC16BT/SN SO-8 MICROCHIP	I105 RA		1
134	N/A	2365100996P	MEMORY IC AT24C16AN-10SU-2.7 SO-8 AMTEL	I105 RB		1
135	N/A	2365106396P	MEMORY IC (EEPROM) M24C16-WMN6TP SO-8 ST	I105 RC		1
136	N/A	2365425726P	DIGITAL IC RTD2120L-LF LQFP-48 REALTEK	I106		1
137	N/A	2365335436P	LINEAR IC TPA2008D2PWP HTSSOP-24 TI	I601		1
138	E-00003533	2379520196P	BEAD,HI-CURRENT Z= 200 ohm 0805 I=2.0A	L101		1
139	E-00003533	2379520196P	BEAD,HI-CURRENT Z= 200 ohm 0805 I=2.0A	L102		1
140	N/A	2253275096P	RES CHIP 1/10W RC 0603 1/10W 75 ohm J T	L103		1
141	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	L104		1
142	N/A	2379820196P	BEAD,HI-IMPEDANCE Z= 200 ohm(200MHZ~) 0805 200mA	L105		1
143	N/A	2379820196P	BEAD,HI-IMPEDANCE Z= 200 ohm(200MHZ~) 0805 200mA	L106		1
144	N/A	2379820196P	BEAD,HI-IMPEDANCE Z= 200 ohm(200MHZ~) 0805 200mA	L107		1
145	N/A	2360501396P	FET,P-CH SMD AP2305GN SOT23 APEC	Q103 RA		1
146	N/A	2360502196P	FET,P-CH SMD STS2301 SOT-23 SamHop	Q103 RB		1
147	E-Q-0402-1180	2360301296P	XISTOR,NPN R SMD MMBT3904-F SOT23 DIODES	Q104 RA		1
148	E-Q-0402-1608	2360300896P	XISTOR,NPN R SMD MMBT3904K SOT-23 FAIRCHILD	Q104 RB		1
149	E-Q-0402-1624	2360301696P	XISTOR,NPN R SMD PMBS3904 SOT-23 PHILIPS	Q104 RC		1
150	N/A	2360100896P	XISTOR,PNP R SMD MMBT3906LT1G SOT-23 ON	Q105 RA		1
151	N/A	2360100696P	XISTOR,PNP R SMD PMBS3906 SOT-23 PHILIPS	Q105 RB		1
152	E-Q-0402-1607	2360100796P	XISTOR,PNP R SMD MMBT3906-F SOT-23 DIODES	Q105 RC		1
153	E-Q-0402-1607	2360100596P	XISTOR,PNP R SMD MMBT3906-NL SOT23 FAIRCHILD	Q105 RD		1
154	N/A	2360100896P	XISTOR,PNP R SMD MMBT3906LT1G SOT-23 ON	Q106 RA		1
155	N/A	2360100696P	XISTOR,PNP R SMD PMBS3906 SOT-23 PHILIPS	Q106 RB		1
156	E-Q-0402-1607	2360100796P	XISTOR,PNP R SMD MMBT3906-F SOT-23 DIODES	Q106 RC		1
157	E-Q-0402-1607	2360100596P	XISTOR,PNP R SMD MMBT3906-NL SOT23 FAIRCHILD	Q106 RD		1
158	N/A	2360100896P	XISTOR,PNP R SMD MMBT3906LT1G SOT-23 ON	Q107 RA		1
159	N/A	2360100696P	XISTOR,PNP R SMD PMBS3906 SOT-23 PHILIPS	Q107 RB		1
160	E-Q-0402-1607	2360100796P	XISTOR,PNP R SMD MMBT3906-F SOT-23 DIODES	Q107 RC		1
161	E-Q-0402-1607	2360100596P	XISTOR,PNP R SMD MMBT3906-NL SOT23 FAIRCHILD	Q107 RD		1
162	N/A	2360100896P	XISTOR,PNP R SMD MMBT3906LT1G SOT-23 ON	Q108 RA		1
163	N/A	2360100696P	XISTOR,PNP R SMD PMBS3906 SOT-23 PHILIPS	Q108 RB		1

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
164	E-Q-0402-1607	2360100796P	XISTOR,PNP R SMD MMBT3906-F SOT-23 DIODES	Q108 RC		1
165	E-Q-0402-1607	2360100596P	XISTOR,PNP R SMD MMBT3906-NL SOT23 FAIRCHILD	Q108 RD		1
166	E-Q-0402-1180	2360301296P	XISTOR,NPN R SMD MMBT3904-F SOT23 DIODES	Q602 RA		1
167	E-Q-0402-1608	2360300896P	XISTOR,NPN R SMD MMBT3904K SOT-23 FAIRCHILD	Q602 RB		1
168	E-Q-0402-1624	2360301696P	XISTOR,NPN R SMD PMBS3904 SOT-23 PHILIPS	Q602 RC		1
169	N/A	2259210308P	RES,CHIP NETWORKS 8P4R 1/16W 10Kohm J P=0.8	RP01		1
170	N/A	2259210308P	RES,CHIP NETWORKS 8P4R 1/16W 10Kohm J P=0.8	RP02		1
171	N/A	2259210308P	RES,CHIP NETWORKS 8P4R 1/16W 10Kohm J P=0.8	RP03		1
172	N/A	2259210308P	RES,CHIP NETWORKS 8P4R 1/16W 10Kohm J P=0.8	RP04		1
173	N/A	2259210308P	RES,CHIP NETWORKS 8P4R 1/16W 10Kohm J P=0.8	RP05		1
174	E-R-0405-6410	2253210296P	RES CHIP 1/10W RC 0603 1/10W 1.0Kohm J T	R101		1
175	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R102		1
176	E-R-0405-6600	2253200096P	RES CHIP 1/10W RC 0603 1/10W 0 ohm J T	R103		1
177	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R106		1
178	E-R-0405-6600	2253200096P	RES CHIP 1/10W RC 0603 1/10W 0 ohm J T	R107		1
179	N/A	2253222396P	RES CHIP 1/10W RC 0603 1/10W 22Kohm J T	R109		1
180	N/A	2253222196P	RES CHIP 1/10W RC 0603 1/10W 220 ohm J T	R110		1
181	E-00003527	2253247396P	RES CHIP 1/10W RC 0603 1/10W 47Kohm J T	R111		1
182	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R112		1
183	N/A	2253256096P	RES CHIP 1/10W RC 0603 1/10W 56 ohm J T	R113		1
184	N/A	2253256096P	RES CHIP 1/10W RC 0603 1/10W 56 ohm J T	R114		1
185	N/A	2253256096P	RES CHIP 1/10W RC 0603 1/10W 56 ohm J T	R115		1
186	N/A	2253247196P	RES CHIP 1/10W RC 0603 1/10W 470 ohm J T	R116		1
187	N/A	2253275096P	RES CHIP 1/10W RC 0603 1/10W 75 ohm J T	R117		1
188	N/A	2253275096P	RES CHIP 1/10W RC 0603 1/10W 75 ohm J T	R118		1
189	N/A	2253275096P	RES CHIP 1/10W RC 0603 1/10W 75 ohm J T	R119		1
190	N/A	2253256096P	RES CHIP 1/10W RC 0603 1/10W 56 ohm J T	R120		1
191	N/A	2253256096P	RES CHIP 1/10W RC 0603 1/10W 56 ohm J T	R121		1
192	N/A	2253256096P	RES CHIP 1/10W RC 0603 1/10W 56 ohm J T	R122		1
193	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R123		1
194	N/A	2253222296P	RES CHIP 1/10W RC 0603 1/10W 2.2Kohm J T	R124		1
195	N/A	2253222296P	RES CHIP 1/10W RC 0603 1/10W 2.2Kohm J T	R125		1
196	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R126		1
197	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R127		1
198	E-R-0405-6600	2253200096P	RES CHIP 1/10W RC 0603 1/10W 0 ohm J T	R135		1
199	N/A	2253215396P	RES CHIP 1/10W RC 0603 1/10W 15Kohm J T	R136		1
200	E-R-0405-6419	2253247296P	RES CHIP 1/10W RC 0603 1/10W 4.7Kohm J T	R137		1
201	E-R-0405-6419	2253247296P	RES CHIP 1/10W RC 0603 1/10W 4.7Kohm J T	R138		1
202	E-R-0405-6600	2253200096P	RES CHIP 1/10W RC 0603 1/10W 0 ohm J T	R139		1
203	N/A	2253230396P	RES CHIP 1/10W RC 0603 1/10W 30Kohm J T	R141		1
204	E-R-0405-6419	2253247296P	RES CHIP 1/10W RC 0603 1/10W 4.7Kohm J T	R145		1
205	E-R-0405-6410	2253210296P	RES CHIP 1/10W RC 0603 1/10W 1.0Kohm J T	R147		1
206	E-R-0405-6600	2253200096P	RES CHIP 1/10W RC 0603 1/10W 0 ohm J T	R148		1
207	E-R-0405-6600	2253200096P	RES CHIP 1/10W RC 0603 1/10W 0 ohm J T	R150		1
208	N/A	2253222096P	RES CHIP 1/10W RC 0603 1/10W 22 ohm J T	R151		1
209	N/A	2253222096P	RES CHIP 1/10W RC 0603 1/10W 22 ohm J T	R152		1
210	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R153		1
211	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R154		1
212	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R157		1
213	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R158		1
214	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R159		1
215	E-R-0405-6600	2253200096P	RES CHIP 1/10W RC 0603 1/10W 0 ohm J T	R162		1
216	N/A	2253222096P	RES CHIP 1/10W RC 0603 1/10W 22 ohm J T	R163		1
217	N/A	2253222096P	RES CHIP 1/10W RC 0603 1/10W 22 ohm J T	R164		1
218	N/A	2253222296P	RES CHIP 1/10W RC 0603 1/10W 2.2Kohm J T	R165		1
219	N/A	2253222296P	RES CHIP 1/10W RC 0603 1/10W 2.2Kohm J T	R166		1
220	E-R-0405-6410	2253210296P	RES CHIP 1/10W RC 0603 1/10W 1.0Kohm J T	R167		1
221	N/A	2253268296P	RES CHIP 1/10W RC 0603 1/10W 6.8Kohm J T	R168		1
222	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R169		1
223	N/A	2253282196P	RES CHIP 1/10W RC 0603 1/10W 820 ohm J T	R170		1
224	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R171		1
225	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R172		1
226	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R173		1
227	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R174		1
228	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R175		1
229	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R176		1
230	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R177		1
231	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R178		1
232	N/A	2253282196P	RES CHIP 1/10W RC 0603 1/10W 820 ohm J T	R179		1
233	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R180		1
234	E-R-0405-6419	2253247296P	RES CHIP 1/10W RC 0603 1/10W 4.7Kohm J T	R181		1
235	E-R-0405-6419	2253247296P	RES CHIP 1/10W RC 0603 1/10W 4.7Kohm J T	R182		1
236	E-R-0405-6419	2253247296P	RES CHIP 1/10W RC 0603 1/10W 4.7Kohm J T	R183		1
237	E-R-0405-6419	2253247296P	RES CHIP 1/10W RC 0603 1/10W 4.7Kohm J T	R184		1
238	E-R-0405-6410	2253210296P	RES CHIP 1/10W RC 0603 1/10W 1.0Kohm J T	R185		1
239	E-R-0405-6600	2253200096P	RES CHIP 1/10W RC 0603 1/10W 0 ohm J T	R186		1
240	N/A	2253210196P	RES CHIP 1/10W RC 0603 1/10W 100 ohm J T	R187		1
241	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R189		1
242	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R192		1
243	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R193		1
244	N/A	2253210696P	RES CHIP 1/10W RC 0603 1/10W 10Mohm J T	R194		1
245	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R602		1
246	E-R-0405-6600	2253200096P	RES CHIP 1/10W RC 0603 1/10W 0 ohm J T	R603		1
247	E-R-0405-6419	2253247296P	RES CHIP 1/10W RC 0603 1/10W 4.7Kohm J T	R607		1

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
248	N/A	2253210496P	RES CHIP 1/10W RC 0603 1/10W 100Kohm J T	R608		1
249	E-00003527	2253247396P	RES CHIP 1/10W RC 0603 1/10W 47Kohm J T	R609		1
250	N/A	2253210496P	RES CHIP 1/10W RC 0603 1/10W 100Kohm J T	R610		1
251	E-00003527	2253247396P	RES CHIP 1/10W RC 0603 1/10W 47Kohm J T	R611		1
252	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R612		1
253	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R614		1
254	N/A	2253210396P	RES CHIP 1/10W RC 0603 1/10W 10Kohm J T	R615		1
255	N/A	2253233096P	RES CHIP 1/10W RC 0603 1/10W 33 ohm J T	R616		1
256	N/A	2202526300P	PCB MULTILAYER VG2030VW-1 M/B FR4*2 90*100	U101		1
257	N/A	2369105701P	XTAL,OSC 24.0000MHZ/49US 0.1mw/16PF	X101		1
258	N/A	2336310713P	CAP,MINI ELE 105'C EC 100u/ 16V 6.3*7 P=2.5 T	C104		1
259	N/A	2336310613P	CAP,MINI ELE 105'C EC 10u/ 16V 4*7 P=2.5 T	C135		1
260	N/A	2336310713P	CAP,MINI ELE 105'C EC 100u/ 16V 6.3*7 P=2.5 T	C138		1
261	N/A	2336310613P	CAP,MINI ELE 105'C EC 10u/ 16V 4*7 P=2.5 T	C142		1
262	N/A	2336310613P	CAP,MINI ELE 105'C EC 10u/ 16V 4*7 P=2.5 T	C106		1
263	N/A	2336310613P	CAP,MINI ELE 105'C EC 10u/ 16V 4*7 P=2.5 T	C122		1
264	N/A	2336310613P	CAP,MINI ELE 105'C EC 10u/ 16V 4*7 P=2.5 T	C126		1
265	N/A	2336310713P	CAP,MINI ELE 105'C EC 100u/ 16V 6.3*7 P=2.5 T	C140		1
266	N/A	2335215811P	CAP,ELE LOW ESR 105'C EC 1500u/ 10V10*16 P=5.0 C	C601		1
267	E-00000999	2336347613P	CAP,MINI ELE 105'C EC 47u/ 16V 5*7 P=2.5 T	C627		1
268	N/A	2371115001P	COIL,CHOKE 15uH/ 8*10 UEW 0.5mm/21.5Ts	L603		1
269	N/A	2371115001P	COIL,CHOKE 15uH/ 8*10 UEW 0.5mm/21.5Ts	L604		1
270	N/A	2371115001P	COIL,CHOKE 15uH/ 8*10 UEW 0.5mm/21.5Ts	L605		1
271	N/A	2371115001P	COIL,CHOKE 15uH/ 8*10 UEW 0.5mm/21.5Ts	L606		1
272	N/A	2379103391P	FERRITE CORE 3.5*6*0.8x2 100MHZ=100ohm Min	L607		1
273	N/A	2404371008P	CONNECTOR JST PH 9P TOP P=2.0 OR EQUAL	P101		1
274	N/A	2407430900P	SOCKET DHSB-15FTF7 BLUE(661C) LEOCO	P102		1
275	N/A	2404321230P	CONNECTOR CF10301D0T0 CVILUX	P104		1
276	N/A	2404371009P	CONNECTOR JST PH 10P TOP P=2.0 OR EQUAL	P105		1
277	N/A	2405106000P	EARPHONE JACK 2SJ-P520-A04 (577C) SINGATRON	P601		1
278	N/A	2404371003P	CONNECTOR JST PH 4P TOP P=2.0 OR EQUAL	P602		1
279	N/A	2363705896P	LED SIA3227Y2B1CB YEL/BLU BRIGHTEK	D701		1
280	N/A	2427410008P	WIRE HARNESS 8/10P H/B 1007#26 L=300mm	P701		1
281	N/A	2427300043P	LUG W/WIRE OB 4.3/TIN 1007#24 L=40mm BLK	P986		1
282	M-SW-0815-0182	2403702200P	TACT SWITCH TSAA-2L 6*6*4.3 HUAJIE	S701		1
283	M-SW-0815-0182	2403702200P	TACT SWITCH TSAA-2L 6*6*4.3 HUAJIE	S702		1
284	M-SW-0815-0182	2403702200P	TACT SWITCH TSAA-2L 6*6*4.3 HUAJIE	S703		1
285	M-SW-0815-0182	2403702200P	TACT SWITCH TSAA-2L 6*6*4.3 HUAJIE	S704		1
286	M-SW-0815-0182	2403702200P	TACT SWITCH TSAA-2L 6*6*4.3 HUAJIE	S705		1
287	N/A	2202526900P	PCB MULTILAYER Q20WB K/B FR4*2 185*14.5	U701		1
288	N/A	2365335266P	LINEAR IC LD7575PS SOP-8 Leadtrend	I801		1
289	N/A	2365335236P	LINEAR IC OZ9936GN SOIC-8 O2-MICRO	I901		1
290	N/A	2360610096P	FET,N-CH(SMD) P2804HVG SOP-8 NIKO-SEM	Q905 RA		1
291	N/A	2360609896P	FET,N-CH(SMD) STM6920	Q905 RB		1
292	N/A	2360502296P	FET,P-CH SMD AP4593M SO-8 APEC	Q906 RA		1
293	N/A	2360502096P	FET,P-CH SMD AP4953M SO-8 Analog Power	Q906 RB		1
294	N/A	2360502496P	FET,P-CH SMD APM4953KCTRL SO-8 ANPEC	Q906 RC		1
295	N/A	2360610096P	FET,N-CH(SMD) P2804HVG SOP-8 NIKO-SEM	Q911 RA		1
296	N/A	2360609896P	FET,N-CH(SMD) STM6920	Q911 RB		1
297	N/A	2360502296P	FET,P-CH SMD AP4593M SO-8 APEC	Q912 RA		1
298	N/A	2360502096P	FET,P-CH SMD AP4953M SO-8 Analog Power	Q912 RB		1
299	N/A	2360502496P	FET,P-CH SMD APM4953KCTRL SO-8 ANPEC	Q912 RC		1
300	N/A	2253491496P	RES CHIP 1/4W RC 1206 1/4W 910Kohm J T	R803		1
301	N/A	2253491496P	RES CHIP 1/4W RC 1206 1/4W 910Kohm J T	R812		1
302	N/A	2253447196P	RES CHIP 1/4W RC 1206 1/4 W 470 ohm J T	R832		1
303	N/A	2253447196P	RES CHIP 1/4W RC 1206 1/4 W 470 ohm J T	R838		1
304	N/A	2202135400P	PC BOARD VX2235WM P/B FR1 180*146 1.00	U801		1
305	N/A	2364530016P	DIODE,ZENER SMD MMSZ5256B SOD-123 PEC	Z803		1
306	N/A	2284110291P	CAP CER CC 1000P/1KV X7R P=5.0 K T	C806		1
307	N/A	2281147191P	CAP CER CC 470pF/50V P=5.0 K T	C808		1
308	E-C-0404-1833	2333622691P	CAP ELE 105'C (NO USE) EC 22u/ 50V 5*11 P=5.0 T	C810		1
309	N/A	2284110291P	CAP CER CC 1000P/1KV X7R P=5.0 K T	C820		1
310	N/A	2284110291P	CAP CER CC 1000P/1KV X7R P=5.0 K T	C821		1
311	N/A	2330006491P	CAP ELE SPECIAL (3000HR) EC 470u /16V 10*13 P=5.0 T	C825		1
312	N/A	2281110491P	CAP CER CC 0.1u/50V (Y5P) P=5.0 K T	C826		1
313	E-C-0404-1838	2333610691P	CAP ELE 105'C (NO USE) EC 10u/ 50V 5*11 P=5.0 T	C827		1
314	N/A	2302047391P	CAP,MTL MEF 0.047uF/50V P=5.0 J T	C901		1
315	E-00003555	2302047291P	CAP,MTL MEF 4700pF/50V P=5.0 J T	C908		1
316	E-00005730	2284022291P	CAP CER CC 2200p/50V X7R P=5.0 K T	C909		1
317	N/A	2284010391P	CAP CER CC 0.01u/50V X7R P=5.0 K T	C910		1
318	N/A	2281110491P	CAP CER CC 0.1u/50V (Y5P) P=5.0 K T	C911		1
319	N/A	2284010391P	CAP CER CC 0.01u/50V X7R P=5.0 K T	C912		1
320	N/A	2284010391P	CAP CER CC 0.01u/50V X7R P=5.0 K T	C913		1
321	N/A	2281110491P	CAP CER CC 0.1u/50V (Y5P) P=5.0 K T	C914		1
322	N/A	2284010291P	CAP CER CC 1000p/50V X7R P=5.0 K T	C917		1
323	E-00003555	2302047291P	CAP,MTL MEF 4700pF/50V P=5.0 J T	C919		1
324	E-00005730	2284022291P	CAP CER CC 2200p/50V X7R P=5.0 K T	C920		1
325	E-00005730	2284022291P	CAP CER CC 2200p/50V X7R P=5.0 K T	C923		1
326	N/A	2302068391P	CAP,MTL MEF 0.068u/50V P=5.0 J T	C924		1
327	N/A	2281110491P	CAP CER CC 0.1u/50V (Y5P) P=5.0 K T	C925		1
328	N/A	2284022201P	CAP CER CC 2200p/50V X7R P=5.0 K T	C927		1
329	N/A	2281110491P	CAP CER CC 0.1u/50V (Y5P) P=5.0 K T	C928		1
330	E-PC-0411-0083	2362401800P	PHOTO COUPLR TLP621 TOSHIBA	I802 RA		1
331	E-00005306	2362402300P	PHOTO COUPLR TLP421 DIP4 TOSHIBA	I802 RB		1

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
332	N/A	2362402200P	PHOTO COUPLR K1010-3B (H4) COSMO	I802 RC		1
333	N/A	2365328191P	LINEAR IC AP431VLA TO-92 ATC	I803 RA		1
334	E-IC-0401-1270	2365319391P	LINEAR IC TL431CLPRE3 TO-92 TI	I803 RB		1
335	E-IC-0401-2152	2365321991P	LINEAR IC KA431AZTA TO-92 FAIRCHILD	I803 RC		1
336	N/A	2365327691P	LINEAR IC CM431GDCN TO-92 CHAMPION	I803 RD		1
337	M-00003554	2097400301P	EYELET BSS3-1/2H T=0.25 SN 3uM	PG85		1
338	M-00003554	2097400301P	EYELET BSS3-1/2H T=0.25 SN 3uM	PG86		1
339	M-00003554	2097400301P	EYELET BSS3-1/2H T=0.25 SN 3uM	PG87		1
340	E-Q-0402-0718	2361316191P	XISTOR,NPN R 2PC945P TO-92 PHILIPS	Q901 RA		1
341	E-Q-0402-0555	2361313691P	XISTOR,NPN R KSC945CGTA TO-92 FAIRCHILD	Q901 RB		1
342	E-Q-0402-0428	2361302591P	XISTOR,NPN R 2SC945-AP TO-92 NEC	Q901 RC		1
343	E-Q-0402-0718	2361316191P	XISTOR,NPN R 2PC945P TO-92 PHILIPS	Q907 RA		1
344	E-Q-0402-0555	2361313691P	XISTOR,NPN R KSC945CGTA TO-92 FAIRCHILD	Q907 RB		1
345	E-Q-0402-0428	2361302591P	XISTOR,NPN R 2SC945-AP TO-92 NEC	Q907 RC		1
346	E-Q-0402-0718	2361316191P	XISTOR,NPN R 2PC945P TO-92 PHILIPS	Q908 RA		1
347	E-Q-0402-0555	2361313691P	XISTOR,NPN R KSC945CGTA TO-92 FAIRCHILD	Q908 RB		1
348	E-Q-0402-0428	2361302591P	XISTOR,NPN R 2SC945-AP TO-92 NEC	Q908 RC		1
349	N/A	2361609891P	FET,N-CH 2N7000TA TO-92 FAIRCHILD	Q909 RA		1
350	N/A	2361612091P	FET,N-CH MW2N7000 TO-92 MAXWELLS	Q909 RB		1
351	E-Q-0402-0718	2361316191P	XISTOR,NPN R 2PC945P TO-92 PHILIPS	Q910 RA		1
352	E-Q-0402-0555	2361313691P	XISTOR,NPN R KSC945CGTA TO-92 FAIRCHILD	Q910 RB		1
353	E-Q-0402-0428	2361302591P	XISTOR,NPN R 2SC945-AP TO-92 NEC	Q910 RC		1
354	E-Q-0402-0720	2361111491P	XISTOR,PNP R 2PA733P TO-92 PHILIPS	Q913 RA		1
355	E-Q-0402-0962	2361110791P	XISTOR,PNP R KSA733-G TO-92 FAIRCHILD	Q913 RB		1
356	E-Q-0402-1106	2361100491P	XISTOR,PNP R 2SA733-AP-TP TO-92 NEC	Q913 RC		1
357	N/A	2361609891P	FET,N-CH 2N7000TA TO-92 FAIRCHILD	Q915 RA		1
358	N/A	2361612091P	FET,N-CH MW2N7000 TO-92 MAXWELLS	Q915 RB		1
359	N/A	2407200991P	HOLDER,FUSE CQ-05T CONQUER	S802 RA		1
360	N/A	2407200791P	HOLDER,FUSE FC-05C	S802 RB		1
361	N/A	2407200991P	HOLDER,FUSE CQ-05T CONQUER	S803 RA		1
362	N/A	2407200791P	HOLDER,FUSE FC-05C	S803 RB		1
363	N/A	2363231995P	DIODE,RECT UF4007 DO-41 1000V/1A PEC	D806 RA		1
364	N/A	2363234995P	DIODE,RECT UF4007 DO-41 MOSPEC	D806 RB		1
365	N/A	2363235795P	DIODE,RECT UF1007 DO-41 DIODES	D806 RC		1
366	E-D-0403-1465	2363220395P	DIODE,RECT UF4004G DO-41 PEC	D807 RA		1
367	N/A	2363235195P	DIODE,RECT UPG10G DO-204AL ZOWIE	D807 RB		1
368	N/A	2363235695P	DIODE,RECT UF1004 DO-41 DIODES	D807 RC		1
369	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D902 RA		1
370	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D902 RB		1
371	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D902 RC		1
372	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D905 RA		1
373	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D905 RB		1
374	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D905 RC		1
375	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D906 RA		1
376	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D906 RB		1
377	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D906 RC		1
378	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D907 RA		1
379	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D907 RB		1
380	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D907 RC		1
381	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D908 RA		1
382	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D908 RB		1
383	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D908 RC		1
384	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D909 RA		1
385	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D909 RB		1
386	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D909 RC		1
387	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D910 RA		1
388	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D910 RB		1
389	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D910 RC		1
390	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D911 RA		1
391	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D911 RB		1
392	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D911 RC		1
393	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D912 RA		1
394	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D912 RB		1
395	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D912 RC		1
396	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D913 RA		1
397	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D913 RB		1
398	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D913 RC		1
399	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D915 RA		1
400	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D915 RB		1
401	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D915 RC		1
402	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D916 RA		1
403	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D916 RB		1
404	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D916 RC		1
405	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D917 RA		1
406	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D917 RB		1
407	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D917 RC		1
408	N/A	2363601095P	DIODE,SWITCH 1N4148 DO-35 PHILIPS	D918 RA		1
409	N/A	2363601795P	DIODE,SWITCH 1N4148TA_NL DO-35 FAIRCHILD	D918 RB		1
410	E-D-0403-0531	2363600195P	DIODE,SWITCH 1N4148 DO-35 WILLAS	D918 RC		1
411	N/A	2428106125P	JUMPER ϕ0.6*12.5mm	F802		1
412	N/A	2428106100P	JUMPER 0.6 ϕ*10.0mm	J801		1
413	N/A	2428106100P	JUMPER 0.6 ϕ*10.0mm	J802		1
414	M-WR-0828-0455	2428106050P	JUMPER ϕ0.6*5.0mm	J803		1

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
415	N/A	2428106150P	JUMPER 0.6 § *15.0mm	J804		1
416	N/A	2428106150P	JUMPER 0.6 § *15.0mm	J805		1
417	N/A	2428106100P	JUMPER 0.6 § *10.0mm	J901		1
418	N/A	2428106100P	JUMPER 0.6 § *10.0mm	J902		1
419	N/A	2428106125P	JUMPER § 0.6*12.5mm	J903		1
420	N/A	2428106075P	JUMPER 0.6 § *7.5mm	J904		1
421	N/A	2428106075P	JUMPER 0.6 § *7.5mm	J905		1
422	N/A	2428106075P	JUMPER 0.6 § *7.5mm	J906		1
423	N/A	2428106075P	JUMPER 0.6 § *7.5mm	J907		1
424	N/A	2428106075P	JUMPER 0.6 § *7.5mm	J908		1
425	N/A	2428106100P	JUMPER 0.6 § *10.0mm	J909		1
426	N/A	2428106075P	JUMPER 0.6 § *7.5mm	J910		1
427	N/A	2428106075P	JUMPER 0.6 § *7.5mm	J911		1
428	N/A	2428106075P	JUMPER 0.6 § *7.5mm	J912		1
429	N/A	2428106075P	JUMPER 0.6 § *7.5mm	J913		1
430	N/A	2428106150P	JUMPER 0.6 § *15.0mm	J914		1
431	N/A	2428106100P	JUMPER 0.6 § *10.0mm	J915		1
432	N/A	2428106100P	JUMPER 0.6 § *10.0mm	J916		1
433	N/A	2428106100P	JUMPER 0.6 § *10.0mm	J917		1
434	E-L-0407-0041	2379101595P	FERRITE CORE 3.5*0.8*4.5	L801		1
435	N/A	2428106075P	JUMPER 0.6 § *7.5mm	L803		1
436	N/A	2428106125P	JUMPER § 0.6*12.5mm	L901		1
437	N/A	2428106125P	JUMPER § 0.6*12.5mm	L902		1
438	N/A	2239239235P	RES,PRE 1/4S RN 1/4WS 392Kohm F T52	R805		1
439	E-R-0405-3214	2233410395P	RES,CBN 1/4 S RD 1/4WS 10Kohm J T52	R806		1
440	N/A	2233439095P	RES,CBN 1/4 S RD 1/4WS 39 ohm J T52	R807		1
441	N/A	2239210035P	RES,PRE 1/4 S RN 1/4WS 100.00K F T52 MINI	R808		1
442	E-R-0405-3214	2233410395P	RES,CBN 1/4 S RD 1/4WS 10Kohm J T52	R809		1
443	N/A	2233622095P	RES,CBN 1/2WS RD 1/2WS 22 ohm J T52	R821		1
444	N/A	2233427195P	RES,CBN 1/4 S RD 1/4WS 270 ohm J T52	R823		1
445	N/A	2239239215P	RES,PRE 1/4S RN 1/4WS 3.92Kohm F T52	R824		1
446	N/A	2239212115P	RES,PRE 1/4 S RN 1/4WS 1.21Kohm F T	R825		1
447	E-R-0405-3235	2233410295P	RES,CBN 1/4 S RD 1/4WS 1Kohm J T52	R827		1
448	N/A	2239262025P	RES,PRE 1/4 S RN 1/4WS 62.00K F T52 MINI	R828		1
449	E-R-0405-1757	2233410195P	RES,CBN 1/4 S RD 1/4WS 100 ohm J T52	R831		1
450	E-R-0405-3221	2233410495P	RES,CBN 1/4 S RD 1/4WS 100Kohm J T52	R833		1
451	E-R-0405-3221	2233410495P	RES,CBN 1/4 S RD 1/4WS 100Kohm J T52	R834		1
452	E-R-0405-3221	2233410495P	RES,CBN 1/4 S RD 1/4WS 100Kohm J T52	R835		1
453	E-R-0405-3221	2233410495P	RES,CBN 1/4 S RD 1/4WS 100Kohm J T52	R836		1
454	N/A	2239239235P	RES,PRE 1/4S RN 1/4WS 392Kohm F T52	R839		1
455	E-R-0405-3235	2233410295P	RES,CBN 1/4 S RD 1/4WS 1Kohm J T52	R842		1
456	N/A	2239239235P	RES,PRE 1/4S RN 1/4WS 392Kohm F T52	R844		1
457	N/A	2239212115P	RES,PRE 1/4 S RN 1/4WS 1.21Kohm F T	R851		1
458	E-R-0405-1757	2233410195P	RES,CBN 1/4 S RD 1/4WS 100 ohm J T52	R854		1
459	E-R-0405-3235	2233410295P	RES,CBN 1/4 S RD 1/4WS 1Kohm J T52	R906		1
460	E-R-0405-3235	2233410295P	RES,CBN 1/4 S RD 1/4WS 1Kohm J T52	R907		1
461	E-R-0405-3214	2233410395P	RES,CBN 1/4 S RD 1/4WS 10Kohm J T52	R908		1
462	N/A	2239230115P	RES,PRE 1/4S RN 1/4WS 3.01K F T52	R909		1
463	N/A	2428106075P	JUMPER 0.6 § *7.5mm	R910		1
464	E-R-0405-3214	2233410395P	RES,CBN 1/4 S RD 1/4WS 10Kohm J T52	R913		1
465	E-R-0405-2306	2233433295P	RES,CBN 1/4 S RD 1/4WS 3.3Kohm J T52	R914		1
466	N/A	2239297625P	RES,PRE 1/4S RN 1/4WS 97.6Kohm F T52	R918		1
467	E-R-0405-2309	2233420295P	RES,CBN 1/4 S RD 1/4WS 2.0Kohm J T52	R920		1
468	E-R-0405-3213	2233410595P	RES,CBN 1/4 S RD 1/4WS 1.0Mohm J T52	R924		1
469	N/A	2239230115P	RES,PRE 1/4S RN 1/4WS 3.01K F T52	R927		1
470	N/A	2428106075P	JUMPER 0.6 § *7.5mm	R928		1
471	E-R-0405-3214	2233410395P	RES,CBN 1/4 S RD 1/4WS 10Kohm J T52	R929		1
472	N/A	2239239205P	RES,PRE 1/4 S RN 1/4WS 392 ohm F T52	R937		1
473	N/A	2363515395P	DIODE,ZENER HZ27-2 26.2V-27.6V HITACHI	Z801 RA		1
474	N/A	2363527015P	DIODE,ZENER 1N5254B 25.65~28.35V DO-35 PEC	Z801 RB		1
475	N/A	2363515395P	DIODE,ZENER HZ27-2 26.2V-27.6V HITACHI	Z802 RA		1
476	N/A	2363527015P	DIODE,ZENER 1N5254B 25.65~28.35V DO-35 PEC	Z802 RB		1
477	E-00008234	2300947401P	CAP,MTL MINI X2 0.47u/275V P=15.0 M C	C801 RA		1
478	E-00005729	2300947481P	X CAP MINI X2 0.47u/275V P=15.0 K C	C801 RB		1
479	N/A	2287222212P	CAP CER Y2 2200p/250V Y5V P=7.5 M K	C802 RA		1
480	N/A	2287122212P	CAP CER Y1 2200pF/250V P=10.0 M C	C802 RB		1
481	N/A	2287222212P	CAP CER Y2 2200p/250V Y5V P=7.5 M K	C803 RA		1
482	N/A	2287122212P	CAP CER Y1 2200pF/250V P=10.0 M C	C803 RB		1
483	N/A	2300910401P	CAP MTL MINI X2 0.1u/275V P=10.0 K C	C804		1
484	N/A	2357512718P	EC HI-RIPPLE 105C 400V(3000HR) EC 120u/400V 18*36 P=7.5 S	C805		1
485	N/A	2287122212P	CAP CER Y1 2200pF/250V P=10.0 M C	C807		1
486	N/A	2287122212P	CAP CER Y1 2200pF/250V P=10.0 M C	C813		1
487	N/A	2336047731P	HI-LIFE LOW ESR CAP (6000HR) EC 470u/ 35V 10*21 P=5.0 C	C822		1
488	N/A	2336047731P	HI-LIFE LOW ESR CAP (6000HR) EC 470u/ 35V 10*21 P=5.0 C	C823		1
489	N/A	2336010811P	HI-LIFE LOW ESR E.CAP (6000HR) EC 1000u/ 16V 10*16 P=5.0 C	C824		1
490	N/A	2336047731P	HI-LIFE LOW ESR CAP (6000HR) EC 470u/ 35V 10*21 P=5.0 C	C829		1
491	N/A	2336010811P	HI-LIFE LOW ESR E.CAP (6000HR) EC 1000u/ 16V 10*16 P=5.0 C	C830		1
492	E-C-0404-1856	2287210312P	CAP CER Y2 0.01uF/250V P=10.0 M C	C831		1
493	N/A	2275415001P	CAP,CER TC 15p/3KV SL P=7.5 J C	C902		1
494	N/A	2275415001P	CAP,CER TC 15p/3KV SL P=7.5 J C	C903		1
495	N/A	2336047731P	HI-LIFE LOW ESR CAP (6000HR) EC 470u/ 35V 10*21 P=5.0 C	C904		1

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
496	N/A	2275450901P	CAP CER TC 5P/3KV SL P=7.5 J C	C905		1
497	N/A	2336047723P	HI-LIFE LOW ESR CAP (6000HR) EC 470u/ 25V 10*13 P=5.0 T	C906		1
498	N/A	2336047723P	HI-LIFE LOW ESR CAP (6000HR) EC 470u/ 25V 10*13 P=5.0 T	C907		1
499	N/A	2275415001P	CAP,CER TC 15p/3KV SL P=7.5 J C	C915		1
500	N/A	2275415001P	CAP,CER TC 15p/3KV SL P=7.5 J C	C916		1
501	N/A	2275450901P	CAP CER TC 5P/3KV SL P=7.5 J C	C918		1
502	N/A	2336047723P	HI-LIFE LOW ESR CAP (6000HR) EC 470u/ 25V 10*13 P=5.0 T	C921		1
503	N/A	2336047723P	HI-LIFE LOW ESR CAP (6000HR) EC 470u/ 25V 10*13 P=5.0 T	C922		1
504	N/A	2336047731P	HI-LIFE LOW ESR CAP (6000HR) EC 470u/ 35V 10*21 P=5.0 C	C926		1
505	N/A	2368502900P	RECT,BRIDGE GBU4K 4A/800V MOSPEC	D801 RA		1
506	N/A	2368503100P	RECT,BRIDGE SBU4K 4A/800V PEC	D801 RB		1
507	E-FS-0410-0009	2213125207P	FUSE 21502.5(2.5A) LITTEL	F801 RA		1
508	E-FS-0410-0102	2213125211P	FUSE FUSE 2.5A/250V SG501302.5 PICO	F801 RB		1
509	N/A	2371150903P	COIL,CHOKE 5uH 7.8*10 2UEW 0.65mm/12.5Ts	L804		1
510	N/A	2371152302P	COIL,CHOKE ET-24 52mH 0.35mm/60+60Ts*2	L805		1
511	E-L-0407-1606	2379103500P	FERRITE CORE 0.5 ϕ /3Ts 6*10	L806		1
512	N/A	2407413100P	SOCKET AC INLET	P801 RA		1
513	N/A	2407413300P	SOCKET SC-8R-F15A9 SUPERCOM	P801 RB		1
514	N/A	2427409004P	WIRE HARNESS 9/9P H/B 1007#26 L=130mm	P802		1
515	N/A	2404380302P	CONNECTOR 87210-0236 P=3.5 ACE	P901		1
516	N/A	2404380302P	CONNECTOR 87210-0236 P=3.5 ACE	P902		1
517	N/A	2404380302P	CONNECTOR 87210-0236 P=3.5 ACE	P903		1
518	N/A	2404380302P	CONNECTOR 87210-0236 P=3.5 ACE	P904		1
519	E-Q-0402-0718	2361316191P	XISTOR,NPN R 2PC945P TO-92 PHILIPS	Q802 RA		1
520	E-Q-0402-0555	2361313691P	XISTOR,NPN R KSC945CGTA TO-92 FAIRCHILD	Q802 RB		1
521	E-Q-0402-0428	2361302591P	XISTOR,NPN R 2SC945-AP TO-92 NEC	Q802 RC		1
522	E-TH-0416-0042	2229201212P	THERMISTOR,PTH SCK-103 THINKING	R802		1
523	N/A	2241247816P	RES,WIR 2 RW 2WS 0.47 ohm P=7.0 J	R811		1
524	N/A	2235547013P	RES,MTL 2 RS 2WS 47ohm J P=15.0	R820		1
525	N/A	2235547013P	RES,MTL 2 RS 2WS 47ohm J P=15.0	R822		1
526	N/A	2235647113P	RES,MTL 3 RS 3WS 470ohm J P=20.0	R837		1
527	N/A	2242330595P	HIGH VOLTAGE RESISTOR RD 1/2W 3.0Mohm J T52	R905		1
528	N/A	2242330595P	HIGH VOLTAGE RESISTOR RD 1/2W 3.0Mohm J T52	R925		1
529	N/A	2374233032P	XFORMER,POWR DS3319 0.4mm*1/23+23Ts LI TAI	T801 RA		1
530	N/A	2374233031P	XFORMER,POWR DS3319 0.4mm*1/23+23Ts LSE	T801 RB		1
531	N/A	2374301605P	XFORMER INVERTER 15/2000Ts 0.1*20/0.06 DARFON	T901 RA		1
532	N/A	2374301604P	XFORMER INVERTER TLT-1503 15/2000Ts 0.1*20/0.06	T901 RB		1
533	N/A	2374301605P	XFORMER INVERTER 15/2000Ts 0.1*20/0.06 DARFON	T902 RA		1
534	N/A	2374301604P	XFORMER INVERTER TLT-1503 15/2000Ts 0.1*20/0.06	T902 RB		1
535	N/A	2363304900P	DIODE,SCHOTTKY SRF10200C ITO-220 MOSPEC	D821 RA		1
536	N/A	2363304800P	DIODE,SCHOTTKY GMR10H200C TO-220FPAB GAMMA	D821 RB		1
537	N/A	2363305200P	DIODE,SCHOTTKY SP10200 ITO-220 SECOS	D821 RC		1
538	N/A	2363305100P	DIODE,SCHOTTKY FCH10A20 TO-220AB NI	D821 RD		1
539	N/A	2363304200P	DIODE,SCHOTTKY GMR10H60C TO-220FPAB GAMMA	D822 RA		1
540	N/A	2363304100P	DIODE,SCHOTTKY SB1060FCT TO-220AB PEC	D822 RB		1
541	N/A	2363304600P	DIODE,SCHOTTKY FCQ10U06 TO-220AB NI	D822 RC		1
542	N/A	2361612300P	FET,N-CH FQPF7N65C TO-220F FAIRCHILD	Q801 RA		1
543	N/A	2361612200P	FET,N-CH AP2761GI-A TO-220CFM APEC	Q801 RB		1
544	N/A	2361610200P	FET,N-CH 2SK2645-54MR FUJI	Q801 RC		1
545	N/A	2072259301P	HEAT SINK JC186H AL6063S-T5 69.5*20*25H	9H01		1
546	N/A	2072263101P	HEAT SINK AL 55L*24.5W*20HMM T=2.5	9H02		1
547	N/A	2072253903P	HEAT SINK JT178DP SPTE T=1MM	9H03		1
548	N/A	2072253903P	HEAT SINK JT178DP SPTE T=1MM	9H04		1
549	N/A	2105251400P	SPRING PLATE SPTE T=0.4MM (GROUND PLATE)	9H10		3
550	M-SCW-0824-0285	2084730082P	SCREW,BND T+ M3X8(BND T+)	9S01		1
551	M-SCW-0824-0285	2084730082P	SCREW,BND T+ M3X8(BND T+)	9S02		1
552	M-SCW-0824-0285	2084730082P	SCREW,BND T+ M3X8(BND T+)	9S03		1
553	N/A	2024275301P	FRONT BEZEL VX2235/ABS 94HB BLACK C	1F01		1
554	N/A	2053756401P	LED INDIC.-PWR VX2035/PMMA 94HB	1F02		1
555	N/A	2044270901P	FUNCTION KEY VX2235 ABS 94HB BLACK C	1F03		1
556	M-MS-0808-9214	2051352100P	NAME PLATE VIEWSONIC E015-006 3-BIRD LOGO	1F04		1
557	N/A	2051352800P	NAME PLATE 38.00MM*5.90MM	1F05		1
558	M-SCW-0824-0285	2084730082P	SCREW,BND T+ M3X8(BND T+)	1F06		2
559	M-SCW-0824-0285	2084730082P	SCREW,BND T+ M3X8(BND T+)	1F07		4
560	M-SCW-0824-0285	2084730082P	SCREW,BND T+ M3X8(BND T+)	1F08		1
561	N/A	2084740082P	SCREW,BND T+ M4X8(BND T+)	1F09		6
562	N/A	2434325603P	SHIELDING TAPE W25*L60mm (AL)	K901		1
563	N/A	2434325603P	SHIELDING TAPE W25*L60mm (AL)	K902		1
564	N/A	2434325603P	SHIELDING TAPE W25*L60mm (AL)	K903		1
565	N/A	2427404032P	WIRE HARNESS 2+2/4P H/A 1007#24 L=250mm	P603		1
566	N/A	2420330181P	FFC CABLE 30P*P0.5*L157mm	P980		1
567	E-00006218	2212011500P	LCD PANEL M220EW01 V.0 AUO	V901		1
568	N/A	2071983400P	METAL FITTG VX2235 SECC T=0.8MM	5F01		1
569	N/A	2080002200P	SCREW,SPE L355 M3x6 DH NICKEL-PLATED	5F02		4
570	M-SCW-0824-0811	2080003700P	SCREW,SPE ISZZTER001A M3*6L MSWR17/FZMYI	5F03		6
571	HW-00003028	2071874300P	BRACKET,FIX SECC T=0.8 VE910 ACINLET	5F04		1
572	M-SCW-0824-0811	2080003700P	SCREW,SPE ISZZTER001A M3*6L MSWR17/FZMYI	5F05		2
573	N/A	2071679800P	SHIELD PLATE VX2235-4/ANALOG SPTE T=0.3MM	5F07		1
574	N/A	2082630062P	SCREW M3X6 P=0.5	5F08		3
575	N/A	2071885100P	BRACKET,FIX VX2235 HINGE FIX SECC T=1.0MM	5F09		1
576	N/A	2082630062P	SCREW M3X6 P=0.5	5F10		4
577	M-SCW-0824-6945	2080004000P	SCREW,SPE STAND-OFF HEX #4-40UNC H5*5*7L	5F12		2
578	M-LB-0813-0959	2055613392P	LABEL VSC HIGH VOLTAGE WARNING LABEL	6P14		1
579	E-00008181	2391302502P	SPEAKER ASS'Y 2.5W/4ohm(L) L80*W29*H20 D.L	W901		1

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
580	E-00008180	2391302501P	SPEAKER ASS'Y 2.5W/4ohm(R) L80*W29*H20 D.L	W902		1
581	N/A	2022272301P	CABI BACK VX2235-4/ABSHB BLACK C+7604B	2C01		1
582	M-BK-0805-0070	2071869400P	BRACKET,FIX METAL PLATE 1.0MM KENSINGTON	2C02		1
583	HW-00003031	2071872900P	BRACKET,FIX JT198QP SECC 0.8T WALL MOUNT	2C03		1
584	M-MS-0808-9408	2061453400P	BUSHING VE710 PLUG RUBBER	2C04		4
585	N/A	2055636070P	LABEL VX2235WM-4 VS11446 SMALL LABEL	6P05		1
586	M-LB-0813-0530	2055617101P	LABEL 10*20 HI-POT TESTED OK	6P13		1
587	N/A	2055134192P	LABEL VX2235WM-3 VIEWSONIC VS11446	6P50		1
588	PL-00008054	2028263001P	STAND VX2035/ABS 94HB BLACK C	5B01		1
589	N/A	2027267502P	DUST COVER VX2035 ABS 94HB PS-7604B	5B02		1
590	N/A	2071885000P	BRACKET,FIX VX2035_BASE-METAL SECC T=1MM	5B03		1
591	N/A	2080008700P	SCREW,SPE ITS M4*6 NI	5B04		5
592	PL-PD-0714-0113	2039819301P	FOOT PAD RUBBER O20*2TMM SQUARE GRAIN	5B05		5
593	N/A	2028556202P	NECK VX2035/ARM-F ABS 94HB PS-7604B	5B08		1
594	N/A	2028556302P	NECK VX2035/ARM-B ABS 94HB PS-7604B	5B09		1
595	M-SCW-0824-0285	2084730082P	SCREW,BND T+ M3X8(BND T+)	5B10		2
596	N/A	2106659700P	HINGE VX2235 HINGE -5~+15' (TL)	5B13 RA		1
597	N/A	2106659701P	HINGE VX2235 HINGE -5~+20' (HY)	5B13 RB		1
598	N/A	2106659702P	HINGE VX2235 HINGE -5'~+20' (ZJ)	5B13 RC		1
599	M-SCW-0824-0123	2084740102P	SCREW,BND T+ M4X10(BND T+)	5B15		4
600	N/A	2074163001P	HOLDER VX2035-DOWN/ABS 94HB PS-7604B	5B16		1
601	N/A	2074163101P	HOLDER VX2035-UP/ABS 94HB PS-7604B	5B17		1
602	N/A	2001950202P	ATTACH SHEET VX20/22" INSTALL STAND SHEET	5B50		1
603	M-SCW-0824-0123	2084740102P	SCREW,BND T+ M4X10(BND T+)	6B01		4
604	N/A	2082630064P	SCREW M3*6 P=0.5 BLACK	6B02		4
605	N/A	2086240102P	SCREW,P SW+ M4*10 PSW+ ZN	6B03		6
606	N/A	2027267001P	DUST COVER VX2235 ABS 94HB BLACK C (R)	6B05		1
607	N/A	2027267101P	DUST COVER VX2235 ABS 94HB BLACK C (L)	6B06		1
608	A-00008023	2427130123P	AC POWER CORD TAIWAN WALL 1.83M BLACK	P951		1
609	CB-00005507	2427501195P	I/O CABLE D15/D15 20276(4.5) 1.83M BLACK	P961		1
610	CB-00005735	2427721841P	CABLE EAR 3.5(577C) 2547#28 1.8M BLK	P962		1
611	CB-00006182	2427501198P	I/O CABLE DVI-D*2 20276(6.0) 1.83M BLACK	P971		1
612	N/A	2438501257P	CD-OWNER GUIDE VX2235WM-4(P) WIZARD VS11446 A	6P80		1
613	N/A	2002310633P	GUARANT CARD VIEWSONIC VX2235WM-4 QSG	6P81		1
614	N/A	2013228806P	POLYETHY BAG 150X250X0.03T mm LDPE VSC LCD	6P85		1
615	N/A	2011121504P	CARTON BOX VIEWSONIC VX2235WM-4(P) VS1144	6P01		1
616	N/A	2055632243P	LABEL VX2235WM-4 VS1146 (P) AUO VGA	6P02		1
617	N/A	2055690060P	LABEL ENERGYSTAR LABEL 11X11MM NO PP	6P04		1
618	N/A	2055613523P	LABEL VIEWSONIC 5MS STICKER	6P08		1
619	N/A	2055613379P	LABEL VIEWSONIC CONTAINER LABEL	6P11		1/48
620	P-00008192	2012195500P	POLYFOAM VX2235 EPS (BOTTOM)	6P20		1
621	P-00008193	2012195600P	POLYFOAM VX2235 EPS (TOP)	6P21		1
622	M-MS-0808-1317	2013053000P	POLYETHY BAG 90CMX75CMX0.02t PE-LD	6P60		1
623	N/A	2013054020P	POLYETHY BAG 450*350MM T=0.03MM LDPE	6P75		1

* Reader's Response*

Dear Readers:

Thank you in advance for your feedback on our Service Manual, which allows continuous improvement of our products. We would appreciate your completion of the Assessment Matrix below, for return to ViewSonic Corporation.

Assessment

A. What do you think about the content of this Service Manual?

Unit	*Excellent*	*Good*	*Fair*	*Bad*
1. Precautions and Safety Notices				
2. Specification				
3. Front Panel Function Control Description				
4. Circuit Description				
5. Adjustment Procedure				
6. Troubleshooting Flow Chart				
7. Block Diagrams				
8. Schematic Diagrams				
9.PCB Layout Diagrams				
10. Exploded Diagram and Exploded Parts List				
11. Recommended Spare Parts List				

B. Are you satisfied with this Service Manual?

Item	*Excellent*	*Good*	*Fair*	*Bad*
1. Service Manual Content				
2. Service Manual Layout				
3. The form and listing				

C. Do you have any other opinions or suggestions regarding this service manual?

Reader's basic dada:

Name:		**Title:**	
Company:			
Add:			
Tel:		**Fax:**	
E-mail:			

After completing this form, please return it to ViewSonic Quality Assurance in the USA at facsimile 1-909-839-7943. You may also e-mail any suggestions to the Director, Quality Systems & Processes (marc.maupin@viewsonic.com)